











52

A

DISSERTATION

ON THE

PRACTICE OF MEDICINE.

CONTAINING AN ACCOUNT OF THE CAUSES,  
SYMPTOMS, AND TREATMENT  
OF DISEASES:

AND

ADAPTED TO THE USE

OF

PHYSICIANS AND FAMILIES.

BY

**TOMLINSON FORT, M. D.**

---

MILLEDGEVILLE, GA.

PRINTED AT THE FEDERAL UNION OFFICE.

1849.

87057

ANNEX

WB  
F738d  
1849

---

Entered according to Act of Congress, in the year 1848, by

TOMLINSON FORT, M. D.

In the Clerk's Office of the District Court of the United States, for the District  
of Georgia.

---

TO THE  
PHISICIANS OF THE STATE OF GEORGIA.

GENTLEMEN:

I dedicate to you, this DISSERTATION ON THE PRACTICE OF MEDICINE, as a grateful acknowledgement of the kindness, respect, and confidence, which I have experienced at the hands of every one of you, with whom I have had the honor of becoming acquainted ; and to show that I have great reliance in your ready acquiescence in this attempt, to give to the science of Medicine, a wider range in the mental operations of the age.

With great respect, your ob't serv't,

TOMLINSON FORT.

MILLEDGEVILLE, January 23d, 1849.





## ADVERTISEMENT.

---

I have anticipated great satisfaction in writing an introduction of my work to the reader ; but a violent illness has disqualified me for the task. My promise to the public can no longer be delayed, and I must substitute a short Advertisement for the essay I had intended to write.

I confess that it was a great object with me, to present myself to the best advantage before the MEDICAL PROFESSION. It was my purpose to shew them, that the time had arrived, when a diffusion of medical knowledge among men, was necessary to the continuance of their confidence in the science, or its professors ; that the decline of that confidence which is manifest in this day of increasing civilization, has arisen from the vain attempt to make medicine an exclusive property in the hands of those who pursue it as a profession ; that the belief of every preposterous theory so readily entertained, and the sport with human life now carried on so widely under courses of treatment as opposite as they are destructive, are cherished and kept up by the same cause ; that instead of putting down the quack, this exclusive system, is the rampart behind which he stands in safety, and makes more by the random fling of ignorance and rapacity, than the most gifted of his adversaries by years of study and labor ; and, finally, that it would be greatly to the credit of medical men, and profitable to the whole profession, to throw open the doors of their science, and by all practicable means induce mankind to consider it their duty to obtain some knowledge of it for themselves. No man can be certain that it will always be in his power to obtain medical advice, for every one is subject to a thousand casualties which will compel him to rely on his own skill ; and this necessity against which there is no defence, will operate with greater power over the thousands of our best citizens, who are scattered abroad in the country. And where is the language in which to address the millions of all classes, who are daily swallowing drugs of which they have no knowledge ; and who would be filled with dismay at sight of those who claim to be their inventors ? Shall we repeat the statement, that no remedy of any value has ever been added to medicine by these pretended inventors ;

or shall we say of their victims, they are joined to their idols, "let them alone?" But I must desist.

I have made very few acknowledgements to authors, for the aid I have derived from their labors. This work is in its nature ephemeral: its author does not claim for it a place among the standard works of the day. Should its reception warrant it, he hopes to live to remedy some of its defects, and especially, to do justice to the labors of others.

A few words to the common reader, and I have done. I have found it impracticable, to avoid the use of technical words, which may at first be a source of some embarrassment. You will find, however, as you progress, that they are often so used as to need no explanation, and that those which require explanation, are placed together, alphabetically, near the close of the book, and there defined. By referring to those definitions, the meaning of the terms used will be easily ascertained.

Some of the most important diseases are treated of at considerable length. In these cases, I thought it useful to recapitulate the remedies used, at the close of the essay. By referring to this, the reader will never be at a loss for his remedies. In shorter essays, I have thought these recapitulations unnecessary.

Probably no book in which so many diseases are treated of, has so few remedies recommended. This has been done for the purpose of habituating my readers to the use of no more remedies than they could readily remember the qualities and uses of. I have recommended all that I thought essential, and although there are many left out, I believe the number is as great as would be thought necessary by the most celebrated practitioners of the day.

Profoundly grateful that I have been spared, and am allowed the privilege of sending to the press the last sheets of my work, I console myself with the belief, that if it has merit, it will be discovered without a prolonged introduction. Nor will I conceal the apprehension, that there are many who would consider any introduction I might write, as the interested production of one who felt a deeper interest in the sale of his book, than in the advancement of science, or the good of mankind. Hoping that a work which has cost me much thought and labor, will prove valuable in the hands of many, I commend it to that people, who have ever extended to me a generous confidence.

TOMLINSON FORT.

# INDEX.

---

	PAGE.
Abscess, - - - - -	534
Adhesive plaster, - - - - -	688
Ague and fever—Intermittent fever, - - -	137
Alcohol, - - - - -	689
Aloes, - - - - -	691
Alum, - - - - -	691
Amaurosis—Palsy of the eye, - - -	230
Ammonia, - - - - -	693
Antimonial mixture, - - - - -	721
Antimonial powders, - - - - -	722
Arsenic, - - - - -	692
Arsenical solution, - - - - -	692
Asafetida, - - - - -	693
Asthma—Phthisic, - - - - -	270
Balm, - - - - -	694
Balsam of copaiba, - - - - -	699
Bites of serpents and spiders, - - -	571
Bilious Remitting fever, - - - - -	64
Bleeding at the nose, - - - - -	583
Bleeding from the lungs, - - - - -	277
Bloody urine, - - - - -	601
Black hellebore, - - - - -	695
Blue stone, - - - - -	695
Borax, - - - - -	696
Boil, - - - - -	561
Bronchitis—Inflammatory catarrh, - - -	260
Burgundy pitch, - - - - -	696
Calomel, - - - - -	710
Calomel and jalap, - - - - -	723
Cancer - - - - -	547
Carbuncle, - - - - -	563

	PAGE.
Cachexia, - - - - -	595
Camphor, - - - - -	696
Castor, - - - - -	697
Castor oil, - - - - -	697
Cataplasms, - - - - -	698
Cathartics, - - - - -	698
Catalepsy—Trance, - - - - -	515
Chicken pox, - - - - -	183
Child-bed fever, - - - - -	637
Cholera morbus, - - - - -	363
Cholera in infants, - - - - -	366
Clergyman's sore throat, - - - - -	245
Constipation—Costiveness, - - - - -	405
Colic, - - - - -	347
Cold—Catarrh, - - - - -	251
Croup, - - - - -	254
Cubebs, - - - - -	700
Delirium tremens—Insanity from drink, - - - - -	207
Definitions, - - - - -	727
Diarrhœa, - - - - -	392
Diabetes—Excessive discharge of urine, - - - - -	472
Diseases of the breast, - - - - -	644
Diseases of the cæcum, - - - - -	400
Diseases of females, - - - - -	627
Diseases of the spleen, - - - - -	458
Diseases of the kidneys, - - - - -	463
Diseases of the liver, - - - - -	450
Diseases of the skin, - - - - -	678
Diseases of the nervous system, - - - - -	485
Diseases of sensation, - - - - -	612
Diseases of the brain, - - - - -	201
Diseases of the lungs, - - - - -	249
Diseases of the eye, - - - - -	220
Diseases of the heart, - - - - -	308
Diseases of the veins, - - - - -	315
Dispensatory, - - - - -	688
Dropsy of the brain, - - - - -	210
Dry cough, - - - - -	268
Dropsy of the abdomen, - - - - -	426
Dropsy, - - - - -	476
Dyspepsia, - - - - -	325
Dysentery, - - - - -	384
Ear ache, - - - - -	232



	PAGE.
Eating cancer—Lupus, - - - - -	559
Emetics, - - - - -	700
Epidemic cholera—Asiatic cholera, - - - - -	377
Epilepsy—Convulsive fits, - - - - -	486
Ergot, - - - - -	701
Eruptive fevers, - - - - -	150
Ether—sulphuric, - - - - -	702
Ethers, - - - - -	701
Excessive sensibility, - - - - -	613
Excessive menstruation, - - - - -	631
Face ache—Tic douloureux, - - - - -	519
Fever, - - - - -	1
Bilious remitting, - - - - -	64
Child-bed, - - - - -	637
Eruptive, - - - - -	150
Inflammatory, - - - - -	198
Malarious, - - - - -	56
Scarlet, - - - - -	172
Typhoid, - - - - -	4
Yellow, - - - - -	58
Flooding, - - - - -	642
Foreign bodies in the wind-pipe or lungs, - - - - -	286
Foreign bodies in the intestinal canal, - - - - -	433
Fractures, - - - - -	663
Fracture of the skull, - - - - -	664
Fracture of the arm, - - - - -	664
Fracture of the thigh, - - - - -	665
Fracture of the leg, - - - - -	667
Freckles—yellow spots, &c., - - - - -	686
Galls—of the oak, - - - - -	702
Gamboge, - - - - -	703
Gangrenous sore mouth, - - - - -	243
Gentian, - - - - -	703
Giving suck, - - - - -	643
Gout, - - - - -	530
Gonorrhœa—Clap, - - - - -	653
Gum Arabic, - - - - -	704
Hemorrhage—Bleeding, - - - - -	599
Hiccup, - - - - -	598
Hooping cough, - - - - -	274
Hypochondria, - - - - -	521
Hysterics—Hysteria, - - - - -	506
Hydrophobia—Canine madness, - - - - -	586

	PAGE.
Inflammation, - - - - -	184
Inflammation of the iris, - - - - -	228
Inflammation of the mouth, - - - - -	234
Inflammation of the stomach, - - - - -	318
Inflammatory fever, - - - - -	198
Inflammation of the Dura Mater, - - - - -	202
Inflammation of the brain, - - - - -	203
Inflammation of the eye, - - - - -	220
Inflammation of the bowels, - - - - -	415
Inflammation of the peritonæum, - - - - -	421
Inflammation of the lungs, - - - - -	289
Influenza, - - - - -	266
Incontinence of urine, - - - - -	606
Intolerable itching—prurigo, - - - - -	683
Iodine, - - - - -	704
Iron, - - - - -	705
Itch, - - - - -	685
Jalap, - - - - -	706
Jalap and cream of tartar - - - - -	723
Jaundice, - - - - -	456
Kino, - - - - -	706
Lapis calaminaris, - - - - -	707
Laudanum, - - - - -	725
Leprosy, - - - - -	684
Lime, - - - - -	707
Locked-jaw—Tetanus, - - - - -	495
Lunar caustic, - - - - -	708
Luxation of the shoulder, - - - - -	668
Luxation of the elbow, - - - - -	669
Luxation of the hip, - - - - -	669
Luxation of the ankle, - - - - -	670
Mad itch—Nettle rash, - - - - -	580
Magnesia, - - - - -	709
Malarious fever, - - - - -	56
Mercury, - - - - -	709
Measles, - - - - -	178
Mesmerism—Animal magnetism, - - - - -	622
Milk sickness—Trembles, - - - - -	569
Miliaria, - - - - -	641
Mixtures, pills, &c., - - - - -	721
Mumps, - - - - -	555
Muriatic acid, - - - - -	711
Nightmare—Incubus, - - - - -	569

	PAGE.
Opium, - - - - -	712
Pemphegus, - - - - -	678
Piles—Hæmorrhoids, - - - - -	410
Pills, various kinds, - - - - -	724-5
Pink root, - - - - -	715
Pleurisy, - - - - -	289
Plague, - - - - -	535
Pneumonia, - - - - -	289
Potash, - - - - -	714
Poisons, - - - - -	588
Powders of ipecac and nitre, - - - - -	723
Pregnancy and its diseases, - - - - -	634
Pulmonary consumption, - - - - -	278
Purples, - - - - -	567
Quinia, - - - - -	716
Quinsy—Inflammation of the throat, - - - - -	603
Red gum, - - - - -	683
Rheumatism, - - - - -	526
Rhubarb and magnesia, - - - - -	723
Ring worm and Barber's tetter, - - - - -	682
Roseola, - - - - -	182
Saltpetre, - - - - -	711
Sage, - - - - -	717
Salivation, - - - - -	577
Saint Anthony's fire—Erysipelas, - - - - -	557
Saint Vitus' dance, - - - - -	503
Scalds and burns, - - - - -	659
Scarlet fever, - - - - -	172
Scurvy, - - - - -	564
Scrofula—King's evil, - - - - -	536
Scrofulous sore eyes, - - - - -	226
Senna, - - - - -	717
Shingles, - - - - -	679
Simple ointment, - - - - -	725
Sleep walking, - - - - -	617
Small pox, - - - - -	151
Spirit of turpentine, - - - - -	718
Squill, - - - - -	717
Stings of wasps, bees, &c., - - - - -	575
Sugar of lead, - - - - -	718
Suppression of the menses, - - - - -	628
Sulphur, - - - - -	719
Surgery, - - - - -	663

	PAGE.
Sweet spirit of nitre—nitric ether,	702
Syphilis—Pox,	649
Tartar emetic,	720
Tetter,	680
Toothache,	675
Toe nails growing in the flesh,	674
Typhoid pneumonia,	302
Typhoid fever,	4
Ulcers,	670
Uva ursi,	721
Vaccination,	166
Venereal disease,	646
Vomiting of blood,	429
Warts and corns,	673
Weights and measures,	736
White swelling,	607
Wounds,	675
Worms,	435
Yellow fever,	58

## FEVER.

WHEN it is considered that almost every disease is attended with fever, and that a great portion of mankind are cut off by this disease, in some of its forms, the importance of its study will be duly appreciated.

In what I shall say of this subject, I shall avoid as far as possible, the endless discussions to which it has given rise. Two important questions demand our consideration—how shall we avoid; and how cure, this common and fatal disease? Every one will acknowledge, the paramount importance of these considerations, and I shall endeavor to keep them constantly in view.

On a subject so familiar, it will naturally be expected, that I shall present the established opinions and practice of the profession; but alas, what a wilderness of opinion, what a thorny waste of practice, should I set forth! The subject has always been full of difficulties, and the investigations of the day have rather increased than lessened them. *Every thing is believed, every thing disputed.*

At the threshold, we meet with a question as unexpected as it is difficult. *What is fever?* “If a person, prostrated and in bed, with a burning forehead, flushed countenance, full and bounding pulse, acute pain in the head and limbs and great restlessness and thirst,” were examined by a thousand persons in succession, every one of them would pronounce him to be laboring under fever; but writers assure us, that there are fevers in which not a single one of these symptoms is present; and that a definition founded on all or any part of them is imperfect. My own opinion is, that fever is a disease of the whole system, always affecting the circulation of the blood,



and the production and distribution of the heat of the body. That the heat should be lower, and the pulse less frequent at some periods, or in certain stages of fever, than in health, does not invalidate the fact, that in all fevers a disordered pulse and increased heat of the skin, may be securely reckoned on as symptoms. The exceptions to this, so far as my observation goes, are only in the chill stage of intermittents, or in a stage of prostration which attends the most malignant cases of other fevers. But in all these, if the patient is not cut off too suddenly, what has been termed a reaction follows, with the quickened pulse, and increased heat of ordinary fever. Of all the diseases which I have seen, scarlatina presents the hottest skin; yet in the most malignant cases of this complaint, I have seen a cold surface and feeble pulse, from the commencement to the fatal termination. Can it be proper from these half developed cases, to say that scarlet fever is not attended with extra heat of the surface? Prostration of strength, appears to me, an equally uniform attendant on fever. That a patient in delirium may exert extraordinary strength, is no more an exception to this rule, than convulsions, which give to the muscles a force, much beyond the voluntary powers of the patient. These symptoms, like the cold skin and slow pulse present in other cases of fever, last only a short time, when they are followed by the prostration of strength which characterizes the disease. There are consequently three symptoms present in all fevers—prostration of strength—increased heat of the surface, and increased or disordered pulse. These symptoms are not present at every moment of every case, but not a single case can progress to a regular termination without them.

It is not for the physician, and much less for another, to perceive at once the nature of every fever he meets with. He must take time for observing further developements, and form his opinion on grounds of proper judgement. A chill may give sufficient assurance of succeeding fever; but I have been called in cases of scarlet fever when a cold surface, total prostration of strength and almost imperceptible pulse gave sufficient evidence of impending death, but none of the nature of the disease. The science of medicine is yet in its infancy.

The simple elements of fever, do not signify equal simplicity in its symptoms and consequences. Its classification has never been agreed on, and with a strong desire to avoid innovation and present the science of medicine as it is, I am unable to find any acknowledged authority on this subject.

Two grounds for a classification of fevers have been chiefly occupied; one founded on the differences of their remote causes, and the other on their symptoms or grades of violence.

The classification founded on the present symptoms is attractive, because it seems to place the physician and his prescription in a scientific relation to the disease. It has many advocates, but the objections to it are strong. The greatest objection is that according to this division of fevers, the same disease will in a few days run the whole round of the nomenclature. It may be inflammatory to-day, synochus to-morrow, typhus the next day, and intermittent or bilious all the while. This classification is made from the grade, and not from the kind of fever. In this way practical writers have allowed their minds to be confused, and the value of their works has been greatly lessened.

The classification of fevers which I would approve, must be founded on their essential differences; and these cannot be known by the symptoms present at a particular moment. These differences bear an invariable relation to their remote causes—the fever of small pox is essentially different from that of measles—that which originates from malaria is essentially different from the typhoid; and these diseases can never change from one to another. Arising as they do from causes essentially different, the fever which ensues is in every case such as can arise from that cause alone. This may not at all times appear evident, but taking every case in its whole course, it will be easy to distinguish it from any which may arise from another cause.

It is my great object so to describe fever, that the reader will readily assign each case which may occur, to its appropriate class. This would seem to be a task of no great difficulty, but seeing in the attempts of others, any thing rather than a tolerable degree of success, I must expect to share the same fate.

There is another question which has given rise to its parties, and its contests. Is fever an original or secondary disease? Does it arise from some pre-existing local disease, or is it of itself an original disease? My opinion is, that malarious, typhoid, and contagious fevers arise without any previous local disease, but that inflammatory fevers do sometimes arise as a consequence of local inflammation.

The minute differences which exist in various kinds of fever are not appreciable by us; but there is no doubt that each kind, is absolutely different from every other. Between the fevers which usher in small pox, scarlatina and measles there is not

always a visible line of distinction; but each has its peculiar character and tendency. Nor are other fevers as readily recognized as might be desired. A physician finds his patient laboring under great heat, prostration of strength and rapid pulse, but whether the case is to result in typhoid fever, or some of the eruptive fevers, is at first uncertain.

Late and minute investigations have raised a doubt, whether every fever does not tend to a lesion or special disorder of some internal or external organ. The eruptive fevers, especially small pox, seem to be operations on the system, to bring out an eruption on the skin. In other diseases the eruption is equally present, but in some cases very insignificant. The eruption on the lips in intermittent fever, is scarcely of less consequence than the sudamina, and petechiae of typhoid fever. Now, these eruptions, which have of late excited so much attention, were heretofore so little noticed or regarded, that I confess I have paid almost no attention to them. They are now regarded as pointing out the particular character of fever, and by their appearance denoting the stage of the disease, and its probable termination.

I believe it would be impracticable to treat of fever, without dividing it into classes, and I regret that no division has been made, which has met with general acceptance. I shall choose that which appears to me, most simple and useful.

I shall consider fever under the following heads:

- 1st. The Typhoid,
- 2nd. The Malarious,
- 3rd. The Contagious or eruptive and
- 4th. The Inflammatory.

Without desiring to recommend this division to the adoption of others, I only ask for it so much attention as to bear it in mind, as the organization given to the subject in this work.

---

## TYPHOID FEVER.

### GENERAL REMARKS.

THIS is a continued fever, characterised by great prostration of strength, and may continue a few days only, or extend to many weeks. The forms under which it has been seen are so various, that it has never been decided whether there are several distinct varieties or not. Equal uncertainty rests

on the question, whether it is, or is not contagious, or whether there is one variety which is contagious, and another not.

I shall not attempt to settle these controversies, or dispute the facts recorded by others; but place the subject as I have seen it, before my readers. If the facts I have witnessed are of any importance, it will be seen by those placed under circumstances to profit by their study. My observations have not been made in large hospitals or crowded cities; but while they have thus been restricted to a smaller number of cases, they have had the great advantage of extending over a wider surface of country, and admitting of a better investigation of the circumstances under which the several cases have occurred. On this account, I think the bearing of the facts I shall state on the causes and character of typhoid fever, is very important. On the questions of contagion and the means of putting a stop to the spread of this disease, I must be indulged in saying, that I think the views presented are of the greatest value.

Writers of unquestionable talent, have described typhoid fever, as a disease frequently prevailing as a general epidemic, and depending on some unknown cause. Others on the same field of observation, pronounce the whole, the effect of contagion. Others teach us, that the milder forms of typhoid fever are not contagious; but that a more violent disease which they denominate *typhus*, is contagious. I am told, that certain teachers in our medical colleges say that typhus and Typhoid fever are diseases unknown at the South.

I shall not answer or reply to these statements and opinions; but state my own as concisely as I can.

1. Typhoid fever is never epidemic in Georgia. I have seen the disease every year, for thirty-five years, and always witnessed its locality in certain neighborhoods or on single plantations.

2. A fatal, typhoid pneumonia, an extremely rapid disease in its progress, and differing widely from common typhus, has prevailed several winters at the South, under the name of cold plague.

3. Typhoid fever is never contagious in Georgia, and I doubt its being so elsewhere.

4. The cause of typhoid fever cannot be carried from place to place by infected persons. There is no danger to a family in receiving one of its members, who has contracted the disease abroad.

5. Whatever the cause of this disease may be, it attaches



itself to places, and is very slowly removed by a free exposure to air and light. A house thrown open every day, and having every article of furniture washed and exposed to the sun for weeks may yet have the infection, so that a person sleeping a single night in it, will contract the disease. I have seen this the case in certain rooms of a house, while the rest of the building and its inhabitants remained unharmed.

6. I make no distinction between typhoid and typhus fevers. For a long time, I believed that there was in higher latitudes "a mortal contagious typhus," which had never reached the South. I have lived to witness typhoid fever which had a violence equal to the most exaggerated statements I had read; but it differed only in degree from what I had before seen, and was never contagious. I therefore suspect that these distinctions of authors, will be found without a corresponding difference in this disease.

#### CAUSES OF TYPHUS.

Where men are crowded together for rest and sleep, without sufficient ventilation, typhoid fever spontaneously appears. It is the disease produced by human effluvia. It attacks the youthful, healthy, and robust, in preference to the diseased, the immature or the feeble. Youth and vigor are its chosen victims, and it is a great mistake to think that high health can delay its attack.

The causes of typhoid, and bilious remittent fevers, stand opposed to each other. Typhoid fever arises from a poison generated in human bodies—it is the scourge of crowds in houses, in jails, in ships, and in cities. It attacks the mature, the healthy, and the vigorous; leaving unharmed the child, the invalid, and the aged. The malarious or remittent fever, like the savage of the wilderness, spares neither age, sex, nor condition. It attacks the hardy pioneer in his cabin, the planter in his country residence, or the citizen who resides in the suburbs of a city or town. Its cause originates from the vegetable kingdom—in the open fields, the tangled jungle, or the slimy bottom of the drying pool. The two diseases are seldom found together.

I have said that typhoid fever has never prevailed as a general epidemic in Georgia. It has been roundly asserted that the disease has often spread over Europe from some unknown cause. In the accounts I have read of those epidemics I have seen no exception to the views I have taken. The



cause of this disease is the same in Europe that it is elsewhere. It is thought to be a disease of winter and to follow armies. Our army in Mexico, is said to be suffering from it at this time. Now what causes men to crowd together more than cold weather, and what adds more to the same cause than an invading army? How could the great armies of Napoleon in his wars, escape it? They were quartered on every nation, and suffered with this disease, as a common pestilence.

It cannot be denied, that there will occasionally occur cases of fever which cannot be traced to any of the causes we shall assign for typhus, and yet have all the symptoms of that disease. There is but little doubt that cases sometimes arise from a peculiar tendency of the person to the disease, but it will often appear on an investigation that the case has arisen from the common cause ; *a crowded residence*.

This subject is too important to be dispatched with a few facts or assumed statements. The facts which have come under my own notice seem to me worthy of being considered more at large.

It is often important to ascertain the character of a fever without taking too much time in the investigation. The first and most important question is, whether the disease is continuous and typhoid, or bilious and remittent. The circumstances under which it has arisen, will almost decide the question.—Bilious fever is the product of warm weather, operating on widely exposed surfaces of drying lands; it arises in the country, or thinly peopled suburbs of towns or villages. Typhoid fever is regardless of wet or dry, heat or cold, but happens to those least exposed to the dews of night, and who sleep in a confined air in crowded rooms. The poor are its victims, but it attacks the healthy, robust, and young. It seldom attacks the aged and infirm, or the child under seven years old.—These circumstances point to the probable character of fever, but the investigation should not stop here, we must not be satisfied with mere probabilities.

#### INFECTION OR CONTAGION OF TYPHUS.

My opinion on this head has been expressed, but the grounds of it may be more fully developed. The terms infection and contagion are loosely used by medical writers. Both mean the propagation of disease from the sick to the well, but whether by contact or by near approach without contact, or which of these words means one, or the other, is left in great confu-

sion. Typhus fever is by most writers thought to be communicable, either by placing the healthy near the sick or in contact with them. Contagion is the word now commonly used to indicate either or both of these modes of propagating diseases, and I shall so use it in this essay on typhus.

The first question which it becomes necessary to discuss, is the very important one—*is typhus fever contagious?* It would seem to be rash in the face of the thousands of examples given, to deny that the disease is contagious. It is unsuited to the nature of this work, to enter fully into the discussion of this question; I will leave it where I found it in regard to the experience of others, but state for myself that typhus fever in none of its forms, has ever seemed to be propagated by contagion, where I have seen it. I therefore give the opinion that *typhus fever never is contagious*. Some of the facts I have witnessed will be brought forward in support of this opinion.

That the bearing of the facts I shall adduce, on the question of contagion, as well as on the equally important one, of what circumstances produce the cause of typhus, may be seen, I will here in the first place state the facts which I think are always present, where typhus fever originates. The origin and cause of the disease rest on a single fact, viz, *too many persons crowded and sleeping in too small a space*. A great majority of the cases of this disease, which will be met with, will at once be seen to have arisen in situations particularly crowded; but I will not deny that I have met with cases for which I could assign no cause whatever.

With these remarks we are prepared to discuss the question of contagion. It has always been observed, that if typhus is contagious, the infection is of limited activity, for the disease never spreads like small pox or measles in a community. It has therefore, been suggested, that the contagion operates only to a very small distance, and that its activity is then modified by some unknown influence of the atmosphere in the place in which the disease is propagated. This is assuming a great deal too much, and in my opinion is an unfounded hypothesis.

I believe the disease is not contagious, from the following facts:

1. For thirty years and more, I have been in the habit of giving professional attention to the sick with typhoid fever:—In all that time, I have never passed a single year without seeing the disease, and have visited its victims under every variety of circumstances, without being attacked by it.

2. During the same routine of experience, I have witnessed the visits of the friends of the sick, performed with equal safety. It is within bounds to say, that I have seen the sick visited in this way, a thousand times, without harm to a single visitor, who but *made his visit and returned in a reasonable time.*

3. I have in many cases advised the removal of the sick, during any part of the progress of the disease, and have never known it to spread in the families of those who opened their doors for the performance of this great act of humanity. Now according to my view of contagion, the removal of the sick into the houses of the well is the best method of giving opportunity for its action, and if typhus fever cannot be propagated in this way, *it is not contagious,*

How then is the virus of typhoid fever produced? I have stated above that there is one circumstance always present at its production, viz, *too many persons crowded and sleeping in too small a space.* It is conceded that cases are often met with, in which the application of this rule cannot be easily seen.—These cases are almost always of a mild grade, and appear in persons of peculiar susceptibility. They are met with by every practitioner, and are called by various names according to their particular symptoms. The physician will say, it is a continued fever, a typhoid fever, an inflammatory fever or something of the kind, and in two or three weeks the fever subsides without extending to others. These cases never, so far as I have seen, originate in persons residing alone; and I think they are produced by a cause which operating equally on others, but finding in them less susceptibility to the disease, produces no effect.

But when typhus fever becomes formidable, it will always be found to have originated at a point on which numerous persons had been concentrated, for the purposes of rest and sleep. This fact, so important to be known, cannot be placed on evidence too clear; for it puts it in our power to hinder the origin, and to arrest the progress of this formidable disease.

For obvious reasons the colored population in countries holding them as slaves, and the poor in all countries, are most subject to typhus; not that they are unprovided with the necessities of life, but that their habitations are too densely peopled. This will be made obvious by the following facts.

The first cases of typhus which I was called on to attend, occurred in the family of a white man. His numerous children had grown up to manhood, and although he was not very poor, they all resided in a single small tenement. I found

four or five young men and women, in the same room, laboring under a high grade of typhus fever. The father and mother of these people, were not attacked with the disease ; one of the children died, and another was left with a partial paralysis from which he never recovered. Alarm and the fear of infection, cut off from this poor family the hospitality of friends, with a single meritorious exception. A lady, residing within a mile, visited and assisted in their affliction, and staid with them many nights. She was attacked with the disease, returned to her residence, and was cured. The disease spread no farther, but I had now seen what I have often since witnessed, that typhus fever originates, where persons are most thickly crowded together ; that it is not communicated to the mere visitor by day, but that it will attack the nurse. or the friends who expose themselves. by day and night, to the same cause which produced the disease in the first instance.

A few days ago I was called on by an elderly man, who reminded me of having visited him, twenty-five years ago in typhus. His father, then a man of mature years, had a family of children grown, or nearly so. They had lately removed to a new residence, and for want of sufficient buildings, were crowded into a small tenement, with a floor of earth or rather of sand. All looked dry and new, but the sick were strewn on every side. Two had already died, and there remained only three, who had thus far escaped the fever.

Seeing the high grade of the disease, and believing the place to be thoroughly infected, I advised the instant removal of every one, to the nearest convenient place. Through the creditable humanity of the neighborhood, and my assurance of the safety of the operation, places were procured for all, and all recovered with uncommon rapidity.

Similar facts are more frequently observed amongst our colored population. A man with his wife and child are furnished by their owners with a single tenement, twelve, or perhaps sixteen feet square. At the end of sixteen or eighteen years, he is the father of a large family, all of whom are crowded into the same small house. They are now in imminent danger of having a fatal typhus fever break out amongst them. Two years ago, I was called to witness a case of this kind. It was on the plantation of a wealthy planter, whose own residence was nearly encircled by the tenements occupied by sixty or seventy slaves. In one of these tenements two months before my visit, a fatal Typhus had made its appearance. Four of its inhabitants had died before I was called to



witness the progress of the disease. My residence being at a considerable distance I was not called on, till the ravages of the disease, and the number of the sick, gave to every thing the appearance of an awful pestilence. The disease had now extended to the adjoining houses, and the cases now numbered about fifteen.

My attention was first directed to the house in which the disease originated. It was an old tenement, whose wooden blocks having given way, the floor had settled to the ground; the chimney, broken off about mid-way, was covered with boards, and the walls made perfectly close by being daubed with clay mortar. The sick family had resided but a short time in this house; and their energetic and care taking owner, had not had time to provide them a better. The residents consisted of about ten persons, all of one family, the youngest about ten years old. This family were laborers in the field, and it was their daily practice, to rise in the morning, close and lock up the house, and to return only at night to open it for a short time, then close and sleep in it till morning. If from the convenience of their labor it was practicable for them to return at noon, the house was then for an hour or two opened. Every appearance of a full supply of the necessaries of life to those people was manifest; but the organization I have described, placed them every night in this small building, without ventilation through the floor, through the wall, through the door, or even by the chimney.

The disease made its appearance in February or March, progressed slowly, and destroyed one by one, so that by the 20th of May when I was called, several had died. No fear of contagion had been entertained, and the same system of imperfect ventilation prevailed. The nurses and friends of the sick thronged the house still more, and the disease had assumed a malignity greater than I had ever before witnessed.

Nurses and visitors who attended the sick, and staid with them at night, were attacked, and in this way cases happened in the neighborhood; but in no instance did the disease spread into the families it was thus introduced into. Every case in the adjoining tenements might be traced to the same cause, and although the disease extended to thirty or more persons, I think not a case happened from any other source of infection.

The disease according to its habit, and character, attacked youth and manhood, but made no impression on childhood or age. It went on till it had destroyed nine out of about sixty, and their owner assured me, that there were not left nine

more of equal value, activity, vigor, and intelligence. So violent had it become, that about the first of June, a young girl presented herself as just attacked—her pulse was almost too rapid for numeration, and she was a corpse in less than two days. At the same moment, I beheld in every house, the pleasing yet melancholy sight, of a large number of small children, some left orphans by the pestilence, but all enjoying uninterrupted health.

The owner of these slaves, I have said lived as it were in their midst. The house of which I have said so much, was within forty yards of his residence, and none of the rest of the negro houses much farther. He was a devoted master, and gave himself up to the service of the sick, by night and day. His wife, overseer and one or two other white persons did the same, and were exposed to the poison of the disease, as much as the negroes, except that they did not remain long in the infected houses, and never stopped to rest or sleep there. No white person was attacked by the disease.

The weather which prevailed during the progress of this fatal disorder, was exceedingly hot and dry: there seemed not to be moisture to support the slightest putrefaction, and nothing which I could discover bore the slightest evidence that there was such a thing as a putrefactive process. The blazing sky, the burning heat of the sun, the stunted and withered corn, the dusty road and the dry and parched ground, presented a spectacle of heat and drought which has seldom been surpassed in this country. Yet in spite of this state of things, typhus fever which has been thought the disease of cold climates, prevailed with a violence and malignity which has seldom been surpassed. These facts go to support the opinion that this disease does not arise from the sensible qualities of the atmosphere, or from the process of putrefaction.

The importance of this subject justifies the detail of some more facts which I have observed in regard to it. Two years ago I was called to a neighboring plantation, to prescribe for two cases of typhus fever which had just occurred. It was at the plantation of a gentleman who had lately obtained a considerable addition to the number of his slaves, had erected new houses for some of them, and it was in one of the new houses, that the two cases of fever occurred. The two patients were sisters of fourteen and sixteen years of age;—the house was a comfortable double cabin with a wide entry, but the two ends were occupied by different families. Every thing was as sound as it could be, the house was several feet



elevated from the ground, and admitted in every way a free circulation of the atmosphere. I learned that the mother, and her five or six children, the smallest of which was now nearly grown, occupied the end of the house in which the fever had made its appearance. The mother also stated that as it was summer, the entry and the house was the common place of resort for many besides those who resided in it; that she could not for these reasons, state the number who nightly slept in the building.

These cases of fever were mild and terminated favorably in a few days. Vigorous measures were taken to thin the population of this new building, and the disease spread no farther.

These details have been presented in support of the opinion I have expressed, that typhoid fever is produced by the concentration of too many persons within a given space for the purposes of sleep and rest. It has been seen that the disease occurs as well in the new as in the old and decaying house, as well in the house with but the naked earth for its floor as in the most comfortable residence, and that the sole obvious fact which is in every case present, is the presence of too many persons within a given space.

It is agreed, that we know nothing of the nature of the virus, or poison, which produces this disease. It has been suggested that it depends on some change in the quality of the atmosphere and that it is moveable by the winds. This opinion is not sufficiently supported. The cause of this disease may, like magnetism or electricity, pass or remain, originate or disappear, without the slightest regard to the agency of the atmosphere. I have witnessed many instances, in which the cause seemed not to be removed by a very free ventilation, and one in which the removal of persons, and the thorough ventilation of buildings had not removed it in three or four weeks.

In the year 1836 there was at Midway, two miles south of Milledgeville, a labor school with about sixty pupils, who boarded and slept in a single building. The house was new and consisted of a brick basement story, surmounted by two stories of wood; each story being divided into eight or ten rooms with a longitudinal passage running from end to end. In each of these rooms, which could not have exceeded twelve feet in diameter, there were from two to three pupils.

The building stood in a direction nearly north and south; and typhoid fever made its appearance in the rooms of the North east corner, about the first week in July. The inmates of the rooms of the basement and two wooden stories, were at-

tacked at the same time. The cases with the exception of two, were mild. I visited them within a day or two after the attack—found two of them quite ill, and the remaining five or six with very slight fever, and some tenderness of the abdomen, which was a leading symptom in all these cases. There were now resident in this house sixty pupils, and six had typhoid fever, all in three rooms in one corner, one above another.

Fearing from the great number of pupils in this one building, that the disease would spread and become malignant, I advised its instant evacuation; but the mildness of the cases, was such that they produced so little effect on the minds of the trustees, or teachers, that my advice was not adopted.

In eight days the disease broke out in the adjoining rooms, which were separated from those already mentioned by a thin board partition. We now had the disease in six rooms, all in the same part of the building, but in three stories, one above another. In another week the next three rooms were also filled with new cases, and the number of sick amounted to about twenty.

The trustees were now called together, and they decided under my advice, to request the neighbors to take the sick and the well into their houses, and thus evacuate the building of its inhabitants. To give better assurance of my faith in the safety of the operation, I took one of the worst cases into my own house, and the whole, sick and well were thus received into the families of a few liberal minded citizens. The house was thrown open by day, and a thorough cleansing with soap and water given to every thing it contained. For three weeks this process was kept up, and every article of bedding and furniture exposed repeatedly to the sun.

After three weeks the pupils who had recovered, with all those who had not taken the disease returned to their rooms, and the school and its labors, were renewed. In four or five days the disease reappeared, in exactly the same rooms where it had left off. It now spread to the entire side of the house, but had not crossed the passage, in either story of the building. There were about thirty cases, and all occurred on one side of the house.

The disease had now passed the entire length of the building, and after five or six weeks crossed the passage of eight feet, and attacked two pupils at the opposite corner of the building, from where it began. It was considered unsafe to contend with it any longer, and the pupils were withdrawn

for the remainder of the summer.—They returned the next winter but the disease made its appearance no more.

These facts are exceedingly curious, and correspond in a wonderful degree with all the observations I have had it in my power to make on this disease. They go far to sustain the proposition I set out with; that typhoid fever arises from but one cause, viz too many persons crowded together in too small a space, for rest and sleep. They go far also in sustaining three additional propositions. The first is, that the cause of typhus fever thus produced continues in the place in which it originated, for a considerable time, after the persons who were affected by it have been removed. The next is that the cause is not affected by the movements of the atmosphere—it cannot be blown away or carried by the winds *even a few feet*. And we may add, that it is equally unaffected by the visible causes arising from the state of surrounding things, viz—its rise and progress is neither caused nor hindered, by heat or cold, wet or dry,—no decay of timber or of vegetable or animal matter will produce it, nor is there any protection in the soundness or cleanliness of persons or things—there is but one protection and that is, to *thin out the crowd of persons*.

The locality of this infection in the school rooms is very remarkable. The disease occurred first in one corner of the building, in three rooms one above the other. Every inmate of these rooms was sick before any other person was attacked. In eight days the inhabitants of the next three rooms, separated only by a board partition, were in like manner attacked. At this rate it progressed along the side of the building, the entire length of the house, before it made its appearance on the opposite rooms which were separated by a passage of eight feet. It was curious to see the entire exemption of one side of this eight foot passage in three stories of the building, and the universal sickness which prevailed on the other side. The only exception was in the steward, who fell a victim to his laborious attention to the sick. His family escaped the infection. After six weeks the disease crossed this eight foot passage at the opposite end of the building from where it began. It was at the time suggested, that a trough in which some pigs were fed near the infected corner of the building might have been the nuisance which caused the fever. I examined it closely, and found nothing offensive about it. It was removed as soon as the disease made its appearance, but the progress of the disease was not stopped.

We have here one of the thousands of examples of the

limit of the infectious causes of typhoid fever. It existed on one side of an eight foot passage, but not on the other; three steps removed the inhabitant from a place of danger to one of safety. This fact is here brought out in a prominent way, but it is not a solitary fact. I have again and again seen a single room in a house, the sole place of typhus disease, and every inmate of that room affected by it. It is reserved for chemistry to furnish some test of the presence of the yet unknown cause of typhoid fever. What reward would equal the value of so great a discovery?

While writing, I have read from a public journal the following notice.—“Fever is dreadfully prevalent, in Liverpool; it has made the most destructive havoc amongst the catholic clergy; eight having been swept away in two months: the disease was in every instance contracted by them while visiting the sick.” Similar notices have been published with regard to this disease in Europe during the whole time of my remembrance. I will not stop to discuss the question of contagion in reference to this disease in Europe. I remark that this paragraph contains no notice of the extension of the disease at the residences of these pious clergymen, and I am left to infer that although they contracted the disease by visiting and remaining too long in infected districts or houses, they were not a cause of extending the disease in other places. This is in my opinion in strict conformity with the law governing the disease, and I consider it *an established fact*. Had these clergymen remained with the sick but a short time, making their daily visits from their own houses, they might all have escaped the infection.

I am apprised that the circumstances which I have assigned, as the general cause of typhoid fever, have long been thought to produce it, in jails, ships and other points of crowded population. In these places the case has been too plain to be overlooked, but in other situations the same causes were less obvious, and a circumstance affecting all alike, a general constitution of the atmosphere, has been suggested and I think generally adopted. The great mischief caused by this opinion is that it attributes to a cause beyond our control, the ills which arise from causes which it is in our power to remove.

I have said nothing of famine in connexion with the cause of typhoid fever. I have had no experience of this, and trust I never shall. In Europe I believe it is a general belief that typhoid fever arises from famine as one of its causes, and I will not dispute the correctness of the observation. But I



will not disguise the opinion that even where famine is added to the causes, it may derive its force from the concentration of human beings into crowded situations—the origin of the disease may, in this case also, be the same.

In any view I have been able to take of typhoid fever, I see in it, the hand of the great and the good Author of the universe. Man may, from the vices of his institutions, the wars of his ambition, or his sloth or ignorance, crowd together to a degree forbidden by the laws of order, of morals, or of religion; but he is soon shewn his impotence; he is instantly smitten by this pestilence, which spares age and childhood, but cuts down youth and vigor, till the violators of these laws are no more. I have had no opportunity of observing this disease, hovering, as it always does, around large armies, or in the narrow lanes of crowded cities; but I can readily conceive the scenes of disorder which are there rebuked by its presence. But it is not armies and cities alone, which are punished by violating the great laws of order—a single family must provide for itself room for decency and order, or in due time, it will pay the penalty.

Since writing the above, I have read the close argument and imposing facts brought forth by Doctor Watson in proof of the uniformly contagious character of continued, or typhoid fever. I am so strongly impressed with the dangerous measures, which this argument and array of facts, is calculated to enforce, that I feel bound to dwell yet a little longer on this subject.

Doctor Watson says, when we see a disease arise “in a certain spot, and gradually spread thence as from a centre, the presumption is in favor of its propagation from person to person;” again—“If we trace the fever among persons who have had intercourse with the sick, and more frequently in proportion as that intercourse has been close or continued; and if we find that other persons, living in the same place, and under precisely the same circumstances, except that they have had no known communication with the sick, escape the fever; we have in these facts convincing evidence that the disease has been spread by such intercourse; in one word, that it is contagious.”

The facts brought forth by Doctor Watson in support of this opinion are imposing, but I think, not conclusive. In the first place he says: “even in hospitals, where cleanliness is prized and enforced, that fever attacks many persons who come most often and most intimately in contact with those already ill of that disease;” he adds that, “The separation of a few

feet, if due regard be had to ventilation, is sufficient to render the poison inoperative," but he continues, "*It is only when our wards are unusually full of fever patients that these disasters occur.*" A cloud of testimony is next adduced to shew the danger to nurses and physicians who attend the sick, in these crowded fever hospitals; all of which is unquestionably true.

But the most interesting of the facts arrayed in this essay are to follow. I copy an entire paragraph. "Evidence of a somewhat different kind, but leading to the same conclusion, is to be found in the fact, that when persons, having the fever upon them, are transferred to some distant spot, that was previously free from fever, they frequently form centres from which the disease begins thenceforward to spread. It is imparted in this way even in the country, from family to family, and from village to village." Several instances are given by Doctor Watson to establish this fact. He points out cases in which an individual sick of fever, being carried into a house not before having it, the disease spread in the family of that house; and one of such a family being also sick going to another place, propagates the disease there also. So strong and incontrovertible are these proofs in the mind of Dr. Watson, that he is lost in astonishment at the fact, that a great majority of the physicians of Europe do not believe typhoid fever to be a contagious disease. He comes at last to the lame conclusion that men form their opinions in part from the particular constitution of their minds, and that in England the non-contagionists are mostly men who belong to a party advocating "liberal opinions in politics and religion."

This sagacious author is too candid to leave the subject, without shewing the opposing facts relied on by others to disprove his opinions. He admits that the disease does not spread in the houses of the rich who have room, cleanliness, and ventilation—that visits to the sick may be safely made if they are not too long protracted—that certain persons go unscathed in the worst sort of exposure—and that the disease often arises where there is no evidence of exposure to contagion. I will add (from Cyclopædia of practical medicine) the experience of Christison and Tweedie; that among the numerous instances, "of young practitioners and medical students who had caught fever, not a single case had occurred where the disease was communicated to their families at home or in their lodging houses." Shall I repeat that facts of this kind have happened under my own observation again and again!



Now, what are we to say to this array of opposing facts; what shall we do, that fever may be deprived of its victims? According to Doctor Watson's own showing, the contagion of this disease is so weak, that nurses and attendants may escape it by care, cleanliness, and ventilation—that in the hospitals of London—"It is only when our wards are unusually full of fever patients," that the disease is propagated to the physician or the nurse. From these facts I infer, that the disease is caught in its place, and cannot be carried out and disseminated by persons who have it. And admitting the fact alleged, that the disease has, in a few rare instances, been propagated in families by persons sick with it, being brought there for care and attention, it will appear altogether probable that these families were so crowded as to produce the disease from the same cause from which it might arise in other places. The wards of a hospital crowded with fever patients, would surely present an atmosphere as favorable to its propagation, as could be desired.

The importance of settling this question properly will be seen, when the measures recommended by those entertaining different opinions are considered. Doctor Watson thinks fever may be stopped, or narrowed down in its range, by sending those who are attacked to hospitals, where he admits their concentration to be a great evil, and destructive of life, but less so than their dissemination in the community. Those who believe the disease arises from a general atmospheric cause, deem all fear of increasing it idle, and all hope from removals vain. My own opinion is, that the means of preventing the spread of typhoid fever are almost always in our reach, and that for the want of a proper knowledge and practice of them, thousands perish who ought to be saved.

Doctor Baneroff presents many facts to prove that a crowded population alone is not a sufficient cause for the production of typhoid fever. He says, this disease is unknown in the arctic regions where of all places men live most concentrated, and least ventilated, and that slave ships are not apt to experience it, even where their victims are dying from suffocation and crowding. These facts have not been sufficiently observed, to stand as a refutation of others equally certain and opposed to them. No one pretends to know the exact time or circumstances under which typhoid fever is produced. Every writer bears witness of the awful mortality which attends slaves in slave ships. But say they, it is diarrhœa, and not typhus which destroys them. What kind of diarrhœa is this?

May it not be the same I have seen in typhoid fever, where the first symptom was a copious discharge from the bowels; and a rapid succession of such discharges caused death in less than four days?

I have endeavored to enforce a belief of two important principles in regard to typhoid fever.

1. The first is, that it will arise where too many persons are collected together in too small a space, for the purposes of sleep and rest.

2. The second, that the disease, when so caused, will not be contagious, and cannot be disseminated by the removal of the sick to places having sufficient room and ventilation.

The first of these maxims points out the means of avoiding the cause and origin of the disease—the second enables us to limit its extension, and save a community or large family from its usual destructive course. This great good I have several times had it in my power to accomplish, and the measures I shall recommend, have in every instance in which I have seen them tried, succeeded perfectly.

#### SYMPTOMS OF TYPHOID FEVER.

Authors agree in attributing to typhoid fever certain premonitory signs; they say the nervous system is affected before the blood vessels. Most of these symptoms signify a debilitated state of the mind, and body; the patient is feeble and easily fatigued, and has great listlessness and sometimes timidity. In his movements he will frequently be so unsteady, that he will hardly be capable of pursuing a direct course from one place to another. On enquiry it will be found that his bowels are irregular, sometimes being affected with diarrhœa, but in other cases with costiveness; his tongue, along its centre, will be found covered with a thin white fur, and it will appear shrunken and pointed, and tremble when it is attempted to be shown.

These symptoms are frequently so slight, as to escape the attention of the patient himself, his listlessness or inattention being such, that his being diseased is first noticed by others. I have several times, while attending families in which this disease prevailed, noticed from the unsteady movements and vacant expression of persons who had not yet complained, that they were also attacked with the fever. On examining such cases, I have found the tongue already covered with a white

fur, the abdomen tumid and tender, and a considerable degree of fever already present.

In numerous cases I have seen this disease come on with all the symptoms of a common cold, the sneezing, running at the eyes and nostrils, paleness of the skin and copious discharges of lymphic urine, were not to be distinguished from this common disorder. These symptoms, when occurring in this disease, have too frequently led to the use of remedies for an acute inflammatory disease; which, as we shall see, is a very injurious practice. All these symptoms, it will be recollected, occur in other diseases besides typhoid fever; they are therefore to be studied in connexion with other circumstances which might render the attack of the disease probable. If they occur for instance in a person who has been exposed to the same cause which has produced typhoid fever in others, it will be safe to conclude, that an attack of the disease has commenced. But if no such circumstances exist, the most experienced practitioner will find it prudent to withhold his opinion, till there is a further development of the case.

In a great majority of the cases met with, the physician will not see the patient till the symptoms we have described have passed, and others of a more positive and formidable character have shown themselves. Where the disease is prevailing in grades which are formidable, the attack is most frequently without any premonitory symptoms; a slight shivering of no great duration takes place, and is followed by a regular onset of fever.

The variety of symptoms which occur in typhoid fever, is not very great; yet they are not all present in any one case, and it is not always perfectly easy to decide on the nature of the disease. The first symptom I shall mention is headache, or pain commonly across the forehead. This symptom is, as far as I have observed, always present; but as it occurs in other diseases it cannot be considered an unerring sign of the presence of typhus. In its degree it is exceedingly various; sometimes producing no intolerable pain, but in other instances, becoming exceedingly acute, and producing great restlessness and delirium.

The state of the bowels is peculiar in this disease. In some instances diarrhœa is present from the first; in others there is costiveness which prevails through the whole disease, unless an opposite state is brought on by the imprudent use of cathartic medicines. When diarrhœa appears early in the disease, the discharges are copious and fluid, but not very frequent. The

matter discharged is offensive, with a peculiar, yellowish, clay color; and I have so frequently noticed the appearance of dark specks, not larger than a grain of wheat, floating about in these discharges that I am obliged to think they are symptomatic of the disease. When the disease is attended with diarrhœa, there is almost always present from the first, some tumefaction and tenderness of the abdomen; but the pain and inconvenience which attend it, are much less than we should be led to apprehend.

The pulse in typhoid fever is sometimes so little disturbed, that it would not be easy to decide that the patient had any fever at all; and these cases are apt to be very obstinate, and perhaps the most protracted that occur. They are however attended with far less danger than cases in which there is more disturbance of the circulation. In other cases the pulse is feeble and rapid. Even at the onset of the disease, I have felt the pulse beat from one hundred and twenty to one hundred and thirty times per minute, and these cases I have so often found to terminate fatally, that I have come to the conclusion that the danger of the disease is nearly in proportion to the rapidity of the pulse, at its onset.

Great attention has been paid to the force and rapidity of the pulse in this disease. Dr. Cullen made his principal divisions of fever, to depend on the force of the circulation. Where the pulse was strong, and the heat considerable, the disease was considered inflammatory, and remedies of a weakening or depleting nature, directed. Now, although the pulse in typhoid fever is sometimes in a considerable degree full and strong, it never has the force and fullness which attends it in disorders which are truly inflammatory. The peculiarity of the pulse in typhoid fever is, that when it increases in force it becomes lessened in frequency. This is certainly true in the first week of the disease, and I think commonly true during its whole course. As a general rule, it may be observed that if in the progress of the disease, the pulse grows rapid and feeble, the patient is getting worse; if on the contrary the pulse becomes slow and full, whether from the effect of remedies or spontaneously, the disease is getting better. This is an old remark, first made I think, by Dr. Darwin.

The next symptom which I shall mention is the universal sign of fever—*increased heat*. This is not very remarkable in typhoid fever. In many instances the heat is not very great; the hands or feet exposed to the air, become cool and even the face is frequently observed to be as cool, as in ordinary health.



But at all times during the course of typhus, there is a manifest increase of heat about the body. This will be manifest on a slight examination with the hand. The heat of the body is by no means uniformly the same; it varies as the pulse varies, but whether these variations correspond strictly with the state of the circulation, is a question I will not pretend to decide.

In the regular course of typhoid fever, there seems to be a daily routine or evolution of disease. At some hour, in the course of the day, there will be seen on one cheek, a spot of red, sometimes not larger than a quarter of a dollar; this spot will gradually enlarge and so extend that the whole face will, in two or three hours, be flushed, and red. The heat of the body will be greatest at this time; but the hands and feet will be found cool, and the patient will often call for warm applications to them. In the course of five or six hours, the heat will be generally diffused, and the color of the patient's face begin to decline. After ten or twelve hours the heat will fully extend to the extremities, when the application of cold water, will be as grateful as it would have been disagreeable, at the commencement of the symptoms we have described. The fever at length subsides in some degree, but after a lapse of twenty-four hours or more from the time of the appearance of the flushing and red spots, we have spoken of, the same symptoms will be again renewed, and so pass through another period.

In this manner, with but little change in its symptoms, typhoid fever passes through what has been called its first stage. This period is of uncertain duration and may last from eight to fifteen days or more. But at last, the patient runs into a quiet, easy, long continued perspiration, and in many instances the disease terminates here, and the patient becomes convalescent. In other instances the disease, without any evident cause, seems to be kindled up anew, and to go on with aggravated rather than lessened symptoms. We are bound also to add, that in the worst cases even the slight remission we have described as taking place about the middle of the disease, does not occur at all; but the fever progresses, from its commencement to its termination, without any thing resembling a remission or an interval.

Listlessness and inattention, or disregard, even of present suffering, is characteristic of typhus. The patient will hardly mention his symptoms, unless in reply to a pointed enquiry. He will sometimes deny that he is sick, or mention only the slightest symptoms. I attended a Frenchman, who during forty days of continued fever, mentioned, but a single symptom—

*he was tired.* Ask if he had head ache, and he would reply that he had ; and although his abdomen was swollen and tender, he never seemed to think of it. A young robust negro who had this disease, denied altogether that he was sick ; and on being asked why he did not go to work, made no reply, but looked a little puzzled, and shook his head.

After the first week, if the symptoms do not change for the better, they are apt to grow decidedly worse. The tongue, which in the beginning was white, becomes dark or brown, and sometimes almost black. It seems almost immovable in the bottom of the mouth, becomes dry and flattened on the top, and sharp at the edges like the tongue of a bird ; and has been denominated parrot tongue. If the case terminates favorably, the dark scurf sloughs off, leaving the tongue tender and red. In a few instances the tongue differs altogether from this appearance ; it is dry and of a fiery red colour, from first to last. The same cause which covers the tongue with fur ; also covers the teeth and the margin of the gums with a thick sordes, or encrustation, which adds to the offensiveness of the mouth.

As the case approaches a termination, the skin becomes moist, and in many instances a copious perspiration takes place, during some portion of every day. A noisome smell is now obvious on coming near the bed. This peculiar smell is found in the breath from the first, and increases as the case grows worse. It admits of no description, is in a high degree loathsome, and points to the necessity of cleanliness and ventilation in the management of typhus.

The delirium which is so common in this disease, "is peculiar." It seems to grow out of the listlessness, natural to the disease. The patient mutters at random, but can sometimes be aroused to a degree of consciousness and understanding. He is seldom delirious many hours at a time, but is so most frequently at night, when there is a slight increase of fever.

I may not dismiss the account of the symptoms of typhoid fever, without mentioning the eruptions which appear on the skin after it has reached its greatest height, often towards the close of the disease. The accurate observers of the present day, say that there are several kinds of these eruptions, and that they point out varieties in the disease. The questions which have been raised over them are yet undecided, and I can add nothing to the stock of knowledge on this subject. I know not how many names have been given to these eruptions. I believe the most common is petechia, from the resemblance



of the spots to fleabites. This shows how insignificant the eruption is in itself; but as a fact showing the tendency of this disease to throw out an eruption on the skin, it may be important. But of late, we see it stated, that there is an eruption distinct from petechia, and characteristic of typhoid fever.

Having seen this eruption in but a single case, of which I preserved no memorandum, I referred to notes taken by myself from Doctor Rush's lectures. He mentions in his manner of classifying diseases the petechial state of fever, but says he has never seen it, and takes the account from others. Now I have no doubt he had attended many patients who had this eruption, but his attention was not called to a few scattered spots, over the abdomen and thorax, which were of themselves too insignificant for notice. Since the fame of these spots has become so great, it has been my misfortune to have met with typhoid fever, only in colored persons, where their presence cannot be detected. I therefore take the liberty of copying from Watson the following account of them. The eruption sometimes occurs earlier, but commonly in the latter stage of the disease. "It consists of small rosy blotches of a roundish or lenticular shape, scarcely raised, if raised at all, above the general surface of the skin on which they appear. Chomel states that they vanish under pressure, but this is not so. I have again and again observed, that they diminish or become fainter under the pressure of the finger; but they are not effaced even for an instant. They are sometimes fewer, sometimes so numerous as to dapple the whole surface of the abdomen, or of the thorax, or of both. Upon the limbs they are less common and less closely set. I believe they often besprinkle the back, although they are seldom looked for there. They vary in intensity of color, and therefore, in distinctness. The whiter the skin the more obvious the spots become. In brunettes they may easily escape notice. In this form of disease, the entire skin is often unnaturally dusky." This eruption Doctor Watson charges us to discriminate from petechia, which he says is sometimes intermingled with it.

This rash, and others as trifling, which I shall not attempt to describe, are now regarded of some importance in detecting the nature and varieties of typhoid fever; but as they do not occur till towards the close of the disease, and have not, as far as I know, led to any suggestion for the improvement of its treatment, I shall pursue their investigation no further.

I have mentioned diarrhœa as a symptom of typhus in its commencement. It often continues through its whole course,

and is evidently of fatal tendency. It is common in cases in which there is great tenderness of the abdomen, and probably ulceration of the intestines.

Hemorrhage is frequent in this disease, and as far as I have noticed it, a very fatal symptom. A gush of blood from the nostril, which can be restrained with great difficulty, or copious discharges of blood from the bowels, are the forms in which I have met with this symptom. There is seldom any delirium in these cases.

I will add from Watson the following summary of symptoms, of which I have seen cases, which might have stood for examples:

“The delirium is peculiar. The patient wanders, at first, in the night only; and the delirium commonly appears on his awaking from a disturbed sleep. Sometimes he is desirous of getting up, and talks incessantly and earnestly in a loud voice, and can only be kept in bed by the imposition of some restraint. Usually, however, his rambling is of a tranquil kind, and without agitation. His mind seems elsewhere; he is inattentive to all that passes around him; but he lies still, muttering disjointed words or sentences, like a man talking in dreams.—From this state of *typhomania* the patient may sometimes be roused by loud speaking addressed to him, or by the sight of a strange face; so that, though incoherent and delirious just before, he may become collected when his medical attendant enters the room. But he presently relapses. During the delirious state, there is a great deficiency of sensation, and insensibility to impressions. The patient is deaf. This deafness you may hear spoken of as a good omen, or favorable sign; but it is so only by comparison: it indicates a condition of brain less perilous than its opposite, in which the sense of hearing is morbidly acute. Imperfection or loss of vision is much rarer, and much more dangerous, than deafness; yet the eye is generally dull—unlike the brilliant eye of acute phrenitis; it corresponds with the expression of the countenance, which is perplexed rather than wild. Sometimes, however, as the disease advances, black spots, like flies on the wing, *muscæ volitantes*, appear before the patient’s eyes: in consequence, it is presumed, of partial insensibility of the retina. The patient attempts to grasp, or catch these in the air, or to pick them from the bed clothes. This is called *floccitatio*. After these symptoms recovery is not common. The mouth and tongue are dry; yet the patient no longer complains of thirst. The taste, the smell, the sense of touch, are all impair-

ed; even external inflammation may take place, especially about the hips and sacrum, and go on to gangrene, without any complaint of pain from the patient. He seems altogether careless about the issue of his disorder. If, at this period of the fever, you ask him how he does, he will probably declare that he is quite well. I have already alluded to the involuntary passage of the feces: this may depend, in part, especially in the advanced stage of the disorder, upon debility or paralysis of the sphincter muscles. The urine also dribbles away frequently: and these are points which must always be looked after, for the sake of keeping the patient as clean and dry as possible; the irritation of the urine and fecal matters tending to produce sloughing ulceration; and secondly with the view of preventing the bladder from becoming unduly distended. Retention of urine and all its consequences may otherwise occur. It is a good general rule therefore to examine the hypogastric region every day with the hand; and also to ask to see the urine, not for any purposes of prognosis, but to ascertain that it is regularly discharged."

Bed sores are frequent in protracted cases of typhoid fever. They occur on the hips, or on the sacrum, and are commonly unnoticed, till they have become of considerable extent. They seldom happen unless the patient is delirious and lies too much on his back. This cannot always be hindered, as he will constantly resist being placed in any other position. In many cases where the patient has passed many days on his back, in a state of great insensibility, his friends expecting every day to be his last; the fever subsides, and he is found to have extensive bed sores, as they are called. They are in fact, real spots of mortification, and sometimes slough out to a great depth. I have seen such ulcers extend to the bone, and produce permanent injury of the back and paralysis of the legs. I have not often found these ulcers in fatal cases. On the contrary patients who have them commonly recover.

The closing scenes of typhoid fever need not detain us long. They vary in different cases, and as the termination is favorable or otherwise. In acute cases, which terminate in a week or ten days, the symptoms are proportionally rapid and violent. The pulse is rapid from the first, and becomes irregular and trembling; the breathing is hurried and the breath noisome and offensive; there is delirium but no twitchings of the tendons; diarrhoea but no eruption on the skin; and as the case approaches a termination, a copious perspiration spreads all over the body. When the case is protracted to the third

week, or longer, the symptoms are different. The patient lies on his back, slips down towards the foot of the bed; is comatose, and breathes more and more heavily, till death closes the scene.

When the termination of the case is favorable, there is no visible crisis which can be pointed to, as the cause, or in any degree connected with it. If there are copious discharges by the bowels, or in perspiration from the skin, these symptoms are unfavorable. Hemorrhage is still more so. And the most favorable symptom is a change for the better, however gradual.

*While there is life there is hope*, is a maxim applicable to typhoid fever. Some recover, from situations apparently the most hopeless. I attended a young man who lay apparently at the point of death in this disease for many weeks; he was comatose, and resembled the dead more than the living; yet he did not die. His recovery was but partial; he was so debilitated, and paralysed, that he moved with great difficulty, on crutches for the balance of his life. Another rising from like circumstances, was deprived of the power of speech, and never fully recovered.

One more example, and we have done with the death scenes of typhoid fever. Post mortem examinations have shewn that many fatal cases of typhus, are attended with extensive pustules, and resulting ulcers in the small intestines. These ulcers in the intestines, are said to be most extensive, where there is no eruption on the skin. When the eruption appears, it is apt to be late in the disease, and the ulceration of the bowels happens about the same time. This ulceration sometimes penetrates the bowels, and allows their contents to escape into the cavity of the abdomen, producing death in a day or two. The fever which results in this accident, is not always of a very violent grade. I recently attended an interesting young man, who had fever with tenderness of the abdomen, for about two weeks. His symptoms were not violent, and he was hardly confined to his room for more than three or four days, and for two or three days towards the last, he seemed to be recovering, in the usual, gradual way. He was seized suddenly, with violent pain in the bowels, and his abdomen became immediately swollen and tense. His countenance became ghastly, and his pulse feeble, rapid, and tremulous. He died in thirty-six hours. Such are the symptoms and termination of typhoid fever when it produces perforations in the intestines.



## OF THE VARIETIES OF TYPHOID FEVER.

When Doctor Cullen divided fever into several species, according to the force of the circulation or strength of the pulse, he laid the foundation of a confusion in the discussion of the subject, which succeeding authors have not gotten rid of. According to his system, two persons exposed to the same contagious will contract fever; one perhaps, a synochus, and one a typhus. Now if Doctor Cullen meant no distinct kind of disease, by these names, but only grades of the same disease, his followers have not adhered to his maxims. For I believe it is generally conceded, that his synochus is an inflammatory fever from whatever cause, and his typhus, a fever with great prostration, however it may have originated.—Hence a synochus fever might usher in a pleurisy, and a typhus terminate an attack of bilious fever. All this might have been gotten along with, if these terms had been kept strictly to their meanings; but typhoid fever under some name, was unavoidably considered a separate disease, and entitled to a name whether the pulse was high or low. Many are the disputes I have heard amongst medical men, one asserting that there was no original typhus fever, at least in this country, and the other asserting that such fevers were of daily occurrence.

Doctor Rush, must I apprehend, bear a part of the responsibility, of the confused notions of typhus, which still to some extent prevail. I copy the following from my notes on his lectures:

“In the typhoid state of fever, remedies of both classes (stimulants and sedatives) are occasionally proper. This state of fever occurs in almost all fevers, during some part of their course; but it is sometimes an original affection, and plainly marked in its commencement. In this disease, the pulse is round, soft, and quick; the skin dry, and the tongue moist.—This state of fever has been happily termed the slow chronic fever; it often runs into typhus, and is then termed the low chronic fever.” These names are of no use, and are happily obsolete or forgotten.

Now I have felt unable to do better, than to call by the name *typhoid fever*, the great disease of human nature, of all nations and of all ages. This disease must bear its name, whether the pulse is weak or strong, rapid or slow. It is of a kind, as we have endeavored to show, distinct from every other, and

it is now our purpose to investigate the varieties under which it has been seen.

I concur with Doctor Watson in the opinion, that for the continued fevers which have been described under different names by various authors, there is probably but one cause; and that, whatever cause we may assign for them, "There is *no* line of genuine distinction between continued fevers, that can be relied on. They run insensibly into each other, even the most dissimilar of them, and are traceable often to the same contagion." But the disease presents itself under various forms, and I quote again from the same authority.

"Although fever is, as I have stated, a specific disease, it assumes divers forms; and so dissimilar are some of its phases, that they might seem to belong to totally different maladies. These variations relate not only to individual cases, but to whole epidemics. In some places and seasons, the inflammatory type predominates, marked by excitement of the sanguiferous system; in others, depression of the nervous system, characteristic of the typhoid type, is the prominent feature of the disease. Most generally of all, the disorder commences with inflammatory fever, and ends with typhoid symptoms."

As I progress with this subject, I feel that it is becoming more complicated, and bearing wider from the simple truths of nature. I quote still farther from Doctor Watson. "The most usual variety of continued fever, is represented by the synochus" of Doctor Cullen, "which is a compound of the two others"—the inflammatory and typhus.

The differences observed in typhoid fever in different cases, and in different seasons, seem to manifest themselves in the force of the disease. In some the fever is violent and the pulse strong and full; but in others, the pulse gives way, and prostration, with the universally acknowledged symptoms of typhoid fever, prevails from the first. And these differences after all, Doctor Watson concludes, depend more upon an acquired disposition of the human body, than upon any essential change in the nature of the disease, or the virus which occasions it.

I have thought myself obliged to say this much, of the varieties alleged to exist in typhoid fever. They are not inconsistent with the belief that the disease is, in all its varieties, produced by the same cause. They are for the most part, easily discriminated, and valuable as guides in practice; but they are by no means, so striking or important, as the varieties or differ-



ences, which present themselves in different cases of bilious fever.

When a case of fever presents itself in a temperate or southern climate, the great question is, whether it is of the bilious or malarious type, or whether it is typhoid. The unexperienced ought to read the description of these two kinds of fever, before he decides this question. He need not read the whole essay on each kind, but the account of the symptoms only. He will not find them lengthy, and I think, that if he reads with care and attention, he will hardly mistake one of these diseases for the other. And this point I urge the more, as I have nowhere seen the differences of these diseases clearly pointed out, and believe it is a common opinion, that a bilious fever frequently "*runs into typhus.*"

This opinion is as pernicious as it is erroneous; for it leads to the use of remedies wholly improper. The protracted cases of bilious fever are controlled and arrested by remedies, which would be pernicious or fatal in typhoid fever.

#### TREATMENT OF TYPHOID FEVER.

In a disease so important, so widely diffused, and universally known, as typhoid fever; it is painful to be obliged to say, that there is no established mode of treatment. Remedies the most opposite in their nature, and effects, are recommended with equal confidence, and I may say, with equal authority. I have therefore, no fear of offering a single remedy, for which I could not easily find authority, in the writings of authors of established reputation. But I have satisfied myself that there is a preference due to a certain mode of treatment, and I shall recommend it, without claiming for it, any originality or extraordinary efficacy.

It has been said, that this disease has a definite course to run, and that thus far, no remedy has been found, which will shorten its duration. It is also said, that there is hardly any difference in the success of different modes of practice; and it is certain, that remedies have less influence on typhoid fever, than on several other diseases. These facts are so striking, that they have been the foundation of more scepticism, in regard to the efficacy of medicine, than perhaps any other.—These suggestions, warn us against expecting too much from remedies in typhus; we are not warranted in expecting the disease to disappear so soon as we have administered our remedy; but should be satisfied, if our patient is placed in a

state of greater comfort, and more safety. It is agreed, that the changes which happen in the progress of fever, are not often to be foreseen or accounted for; and that while we ought to be modest in claiming every favorable change as the effect of remedies; we should be equally fortified against charging to the ill effect of remedies, the unfavorable changes which happen under their use. We are never to forget that typhoid fever is a disease of such obstinacy, that it will often keep its own course, in spite of all our efforts.

It is on all hands agreed, that we have not discovered any specific remedy for typhoid fever, or, as older writers would have expressed it—"any antidote to the poison of this disease."—Since the days of Brown, our remedies have been divided into stimulants and sedatives, or those which give force and activity to the powers of life, more particularly to the circulation of the blood, and those which reduce or weaken these powers.—Stimulants are used to support the sinking powers of life, and to arouse from the prostration and torpor of the lowest states of typhus; sedatives are demanded to lessen those powers which may be acting in excess, even in typhus; for example, to lessen the force and frequency of the pulse, or to reduce the excess of heat which sometimes prevails. But we should be on our guard against doing too much; for nature has a part to act, in which we may do harm by thwarting her purposes. In reference to these views, Doctor Rush, in his lectures said, "*That the whole business of the physician, is to abstract, add, and do nothing at all.*" To abstract when the diseased action is too high, by bloodletting and other sedative remedies; to add, by stimulants, when the action is too low; and to do nothing, when the powers of nature seemed of themselves sufficient. He enforced with great eloquence, the maxim, that any one may know when to give a remedy, but *it takes a physician to know when to withhold it.*

Typhoid fever is caused by a poison in the blood, or in some other way present in the system. If the patient can live a given time, and no fatal injury happen to any vital organ, the poison will have passed off and he will recover. Bearing this in mind, our remedies have a proper object in lessening the force of the disease in the most active stage, and sustaining the natural powers of the patient at all times, and especially in the latter stage of the complaint. This plan of treatment is as consistent with reason as it is approved by experience; and the measures we shall recommend are such as we have found best qualified to carry it out.

## REMEDIES.

Do not be in too much haste to give your remedy, in continued fever. First be sure the case is not bilious fever—next, that it is not measles, small pox, or scarlet fever. There will be no mistake after the first four or five days, as the eruptive state of these diseases will have arrived; but this development cannot well be waited for.

Having made up your opinion as to the nature of the case, you will select your remedy according to the present symptoms, and stage of the disease. If the pulse is full, frequent, and strong, the face flushed, and eyes reddened and watery: if the pain in the head or limbs is great, and the attack has been of but few days' duration, you have the rare case of inflammatory typhoid fever. For these symptoms, every English writer will tell you to draw blood from the arm, make application of cold water by napkins to the head, and give a cathartic of calomel with castor oil or rhubarb. Now I am not prepared to say that these symptoms never occur in typhoid fever, but they are so rare, that I have never met them. I do not deny that the remedies mentioned are suited to the case; but I warn the practitioner, to be on his guard, and not to overlook the symptoms of prostration which are prominent in every case of typhoid fever. Do not let a little roundness, or fullness of the pulse, pass for the thrilling beat produced by inflammation. Do not let a flushed face and burning skin deceive you, and hurry you into prescriptions too powerful for the strength of your patient. I give you the opinion that in typhoid fever, however imposing the symptoms may be; however they may entitle the disease to rank with inflammatory affections, the patient will be found unable to bear the abstraction of much blood; he will sink, and give way under active depletion.

Bloodletting and cathartics have been the anchors of British practice, since the days of Sydenham. In France the opposite course, of using almost no remedies prevailed, and at last under the fanciful theories of Broussais, became a system.—The partisans of each system became heated, and while the English physicians were charged with killing their patients, the French were charged with letting theirs die. Both parties seem at last, sensible that they have pushed their arguments too far. A spirit of liberality seems to have arisen and each seems willing to allow that the other has been less in error, than might have been supposed. It is thought that in France,

typhoid fever is a disease of greater prostration than it is in England, and that the bloodletting, which is proper in England is not proper in France. From my own observation in this country, I am compelled to join the French party ; so far at least, as to forbid the bloodletting and other active treatment urged on us by the highest English authority.

But there is hope, that this great point in practice is about to be settled. English writers inform us, that the disease has of late undergone a change in that country. That now it is rarely, *if ever*, an inflammatory fever, and that there is now, scarcely any use for the lancet in typhoid fever. I am free to confess, that I think the opinions of the English physicians, have changed, more than the diseases of their climate. Certain it is, that having followed the precepts of Doctor Rush, till I became convinced they were wrong in typhus ; I have for many years regarded the practice founded on them, as full of danger. For a long time, I considered myself as standing alone, on these opinions in this country, but it is with great satisfaction, I am now able to say, that the remedies I shall recommend have the sanction of high authority on both sides of the Atlantic. The reader will recollect, that I condemn, *general blood-letting and active cathartics* in typhoid fever, and now we are prepared to offer the remedies, I think most useful in this disease.

The first remedy I shall recommend is an emetic. This may be of tartar emetic, or ipecacuanha. This remedy is called for, when there is great sickness at the stomach, with heat and fever. It is chiefly applicable to the first week of the disease. It is not forbidden by paleness or considerable quickness of the pulse, for these symptoms may depend on nausea. The emetic should be prompt ; twenty grains of ipecac in a spoonful of cold water, followed in ten minutes by half a pint of cold water if the patient can take it. If the cold water is objected to, a cup of weak tea may be substituted.—The object of giving the emetic in this manner, is to procure the free evacuation of the contents of the stomach at once, and to hinder or lessen the action of the remedy on the bowels as a cathartic.

The tartar emetic is to be preferred where the patient is robust, and the fever high and of recent occurrence. Two grains may be given in a small quantity of water, and here it is important to give half a pint of water, cold or tepid, ten minutes after the dose is taken. If in fifteen minutes more it does not prove emetic, give half a pint more of tepid water, and let the



patient try if necessary to bring on vomiting by running his finger down his throat. No more tartar emetic is to be given. This manner of giving the emetic, is advised, that it may act promptly and fully, and that the tartar emetic may not pass into the bowels and act as a cathartic.

When the emetic has operated two or three times, and the contents of the stomach seem to be freely discharged, give a dose of laudanum. Twenty drops will be sufficient, if the patient does not seem to be much exhausted, but the dose may be increased to sixty drops, if the symptoms of prostration are very striking. This use of laudanum, may be made after the use of *ep<sup>ec</sup>ac* as an emetic, but it is not so often necessary, and should not be given within an hour of the *ep<sup>ec</sup>ac*, for from some unknown cause, *ip<sup>ec</sup>ac* is not controlled in its operation by laudanum, but will go on operating as if no laudanum had been given. If the laudanum is thrown up, a second, but somewhat smaller dose may be given. I have thus early introduced laudanum or opium into my account of the remedies for typhoid fever, I shall say more of it hereafter.

Such is in my opinion the best manner of administering emetics in typhoid fever. They are not very often required, for the symptoms we have mentioned as requiring them, are not often present. Yet I have sometimes met with several cases in the same family, all affected with great disorder of the stomach, and I have found emetics very useful in them. The emetic will seldom require to be repeated, and I should hesitate in giving it more than once, or twice in the first week, and hardly ever after that time.

The next remedy I shall mention, is cathartics. These are to be given with full as much caution, as emetics. In a great majority of cases they are wholly uncalled for and improper.—*Diarrhœa* is a common symptom of typhus, from the first, and it has never appeared to me that this *diarrhœa* has yielded to cathartic medicines. On the contrary, I have seen costiveness removed by a light cathartic, to be followed by the most troublesome *diarrhœa*. The cases in which I use cathartics, are those in which the stomach is disordered with frequent vomiting or heaving. Five grains of calomel followed by a table spoonful of castor oil, in three or four hours, will often relieve such symptoms. Such a dose may be given in the first stage of the disease, and before the strength of the patient has failed him too much, but in the latter stage, costiveness is only to be removed by administering injections of a very mild kind, such as soap-suds or gruel.



Costiveness is not always an evil in typhoid fever. The disease in its chronic form, the slow fever, of common language, is one of universal torpor. Mind, body, limbs, and intestines, are torpid. The patient will lie on his back for days, and never rise to evacuate the bowels or discharge urine unless he is urged. I early learned to dread cathartics; and bad nurses and poverty-stricken patients, taught me, not to fear costiveness. I have attended many who could not procure the administration of an injection, and have seen them lie from one to three weeks without a discharge from the bowels. Such persons in almost every instance recovered, and it was so long, that I had never seen a patient, who was costive in typhus fever, fail to recover, that I came to the conclusion, that there was no danger while the bowels were fast. And even now, I can say, that the best symptom which can be found in typhus, is a constipated state of the bowels.

No remedy has had a more ample and fair trial, than cathartics in typhoid fever. They have been "weighed in the balance and found wanting." No one believes, that they carry off or destroy the disease, in a single instance. Every one acknowledges the harm they do when the intestines are inflamed or ulcerated, as they so often are in typhus. The rule is to use and not abuse this potent remedy, and my opinion is, that even the small use I make of them, is probably more than will be found necessary.

Calomel and other preparations of mercury are of almost universal use in this country. I cannot dismiss the remedies for typhus, without adverting to them. I have tried, and seen them used extensively, first as a cathartic, and next to induce salivation. I have never seen typhoid fever yield to salivation. I have seen the salivation appear in the midst of the fever, and give way before the fever had subsided. I have not often witnessed this, but I do not desire to repeat the experiment. As a cathartic, calomel answers as well as other remedies, and no better. I do not think, that calomel, blue pill, mercurial ointment, or any other preparation of mercury, for external or internal use, has any particular beneficial effect in typhoid fever. On the contrary, I have thought that persons who had been salivated, or had taken mercury in broken doses during their treatment, have had remarkably slow and imperfect recoveries from this malady.

Our next remedy is the application of cold by means of air and water. This is, in my opinion, the most available, useful, and valuable remedy we have in typhoid or continued fever.—

It puts it in our power at any time, to reduce the heat to any desirable standard, and to lessen the force of the circulation at will. Here then are two points in the disease, under our control, and if they are managed with skill, I think the greatest benefit can be obtained. Yet with this power over the heat, and over the pulse, our means of arresting typhoid fever, are very limited. I think we in many instances, lessen its violence, and avert the danger, but the disease will run its course.

Doctor Currie of Liverpool, obtained great renown for his experiments in the use of cold water in the treatment of fever. I think these experiments were rude and unsatisfactory, and his maxims drawn from them, unsound and of little practical utility. Like others who have sought distinction by heralding a particular remedy, he has put the human constitution to the test of what it can bear, from cold water. His pouring over the patient, four or five gallons of water, reduced to forty-five degrees; twenty degrees below the well water of Milledgeville, was a remedy harsh and cruel in the extreme. It is not wonderful that some of his followers found it impossible to get their patients to submit to it. He has the merit of having induced practitioners, to make a bold and fearless use of cold water. Experience has remedied some of the defects of his system, but I have no where seen a plan laid down which I could fully approve. I advise the following plan.

Typhoid fever usually has a daily exacerbation; a sensible rise at some period of each day. This rise is most common in the forenoon, and the fever from that time, continues at its height, through the rest of the day and night, and produces delirium or coma at night if at all. It is in this state of excitement, that cold applications should be made.

The physician should if practicable, make the first application of the remedy with his own hands. If he cannot be present at the proper time, another may do it. Take two or three quarts of cold water in a bowl, and commence by dipping a towel into it, and bathing the head and face, then extend it to the hands and arms, feet, and legs. This is enough surface to apply the remedy to, and in typhoid fever, it scarcely ever fails to be as powerful in the reduction of the pulse, and of the heat, as could be desired. It will seldom require more than half an hour, to reduce the pulse as much as it is prudent to do at any one time. If it is desired to hasten the process, put a fan in the hand of an assistant, and let a brisk current of air be applied to all the wet surface as long as necessary.—This adds greatly to the power of the remedy. The power of

this remedy is in proportion to the extent of the surface, the coldness of the water, and the rapidity of the evaporation.

I have said that the physician should be present, and this is important for two reasons. The first is, that an inexperienced nurse, will wring the towels, and barely moisten the surface, and thus render the remedy nugatory; whereas the water should be freely applied, and if the bed is partially wet, it can do no harm. The next and most important reason is, that the remedy may be stopped at a proper time. The physician should examine the pulse, and when it is reduced considerably, stop the bathing; and allow the water slowly to evaporate.—It should not be wiped from the surface; and if there is wet clothing, or bed clothes, about the patient, let these dry from the heat of his body. Nothing can be more improper, than the common plan of withdrawing the cold suddenly, and covering the patient with warm clothing. If the fever rises soon after the bathing is over, it should be repeated as often as it may appear necessary. This whole process is extremely easy, cleanly, and comfortable. Few are so torpid, as not to acknowledge the comfort and relief it affords.

We are charged not to apply cold, when the patient rejects it, and when it raises on the skin, what is termed goose-flesh. I believe this difficulty almost always arises from inattention to the daily rise of the fever, which I have mentioned. During a few hours before this rise, the patient will shrink from the application, and it ought not to be made. But the same patient will, in a few hours, receive the application with joy.

The sudden manner, in which the pulse in typhoid fever, will give way, under the application of cold water, has always been a matter of surprise to me. In inflammation of the brain, with intense pain, and full bounding pulse, I have directed the application of ice in bladders, to the head, for days together. When symptoms very similar, occur in typhus, the pulse invariably gives way in a short time, from the application of cold water, and I have no doubt but the application of ice for many hours would be fatal.

There are cases in which, from the habit of bathing with warm water alone, the application of cold water will be strongly objected to. I attended a lady in a spell of sickness, which she attributed to bathing her feet in cold water, which she had not done in many years. Such persons may be gratified with the substitution of water raised to a comfortable heat. Let the water be applied in this state, and evaporated on the skin by fanning, and its effect will be found sufficient.

Doctor Currie, I think, objects to the use of cold bathing, when patients are covered with perspiration. To this rule there are many exceptions. Perspiration seems to be the natural crisis of typhus, and when it happens in the latter part of the night, and is moderate, with improving symptoms, let no cold water be applied. But there are many, of the most dangerous cases of typhus, attended with wasting sweats almost from the first. These cases are commonly attended with delirium or coma, and on approaching the bed, a sickening steam seems to meet you. The parts of the body exposed to the air, may feel cool, but place your hand under the clothing, or between the patient and the bed, and you find a high degree of heat. If these symptoms occur early in the disease, though the patient sweat as rain, lose no time in applying the cold water. If ever I saw patients rescued from the grave in typhus, it has been in such cases as these, from the free application of cold water. I have seen the mind cleared of the clouds of delirium in half an hour, and the symptoms thenceforth take a more favorable turn.

Cold bathing, or, as the manner in which I use it is more properly termed, cold affusion, is useful in high and dangerous cases of fever; it can be used more or less frequently, or more or less extensively, as each case may require, and is a valuable remedy when prudently administered. But where the case is moderate with scarcely any obvious daily rise of fever—when it bears on with even tenor, scarcely altering from day to day, according to the real slow fever rule, I have not advised the application of cold, and should not expect any benefit from it.

There is yet another class of cases, in which cold bathing cannot be beneficially used. This is the highest and most malignant class, in which the powers of the system seem to give way without a struggle, and the patient sinks to death without having passed through the violence of disease which might seem to account for it. These cases seem to pass over the first, to the last stage of the disease at once; they remind us of an over dose of poison, and I cannot help thinking they are literally so. The poison is too great for resistance, and the beginning and the end are almost the same. These cases have been termed, congestive, malignant, and I know not what else. They are known by a sudden prostration of strength, and rapid, flying pulse. In some cases, coma begins and ends them. They are peculiarly embarrassing, and difficult to judge of; and not a few of them change suddenly for the better, and terminate favorably, without loss of time.—



These cases unquestionably forbid the use of all depressing agents.

Doctor Watson advises the hair to be cut close, or shaven, in typhus, and napkins dipped in cold water, kept constantly to the head. He advises water from forty to fifty degrees, to be used in this way. This would be a good prescription for acute inflammation of the brain. It is a remedy of great power, and if it is so applied in typhoid fever, it should be constantly attended to, and removed as soon as the pulse and heat are somewhat reduced. Let it never be forgotten, that this fever is never to be pursued too far, with remedies which lessen the powers of life.

Opium is a much questioned remedy, in continued fever.—Every body knows the attempt of Doctor Brown, to substitute it, as a general remedy for fevers of this kind, in opposition to the then established practice of bloodletting, emetics, and cathartics. It is equally well known, that with great passion and violence, he, with his remedy, was put down, and repudiated; so that now, after the lapse of half a century, opium can hardly have a fair hearing before the medical profession. I believe that Doctor Brown was more than half right, in this great controversy.—*Opium is a great remedy in typhus.* It is useful in all the forms and varieties of this disease. How should it be otherwise? Typhoid fever, prostrates the powers of life, deranges the nervous energy, produces local irritation in a hundred ways, and sometimes deprives the sufferer of sleep and rest. For all these evils, what remedy is equal to opium? But it does not remove the cause of these evils in typhus, and they return again after the effect of the remedy is past. True; and alas that it is! But what remedy is free from this objection; have we a specific for this disease? No one pretends that we have.

In the highest, most congestive, and dangerous forms of typhus, opium is our sheet anchor. If the patient is struck down with coma, or has delirium with rapid pulse, and tossing from side to side; and if these symptoms occur on the first, or second, or third or fourth, or any other day of the disease, give opium. Give two grains of solid opium, every six hours. Or give sixty drops of laudanum as often, or a third of a grain of morphine a little oftener; or in the event that your patient is too comatose to swallow remedies, give two tea spoonfuls of laudanum by way of injection. Give this remedy a fair trial. Try a second dose. Perhaps your patient may fall into a profound sleep, or run out of coma into a sleep, for life and not for death.



If he sleeps, let him rest, and hope that he will awake with better symptoms. If this will not relieve him, I think nothing else will do it. He must take his fate. I know that many other remedies are showered down on patients in these unfortunate circumstances. They are bled, leeches, cupped, and fomented—they are bathed with cold water on the head, and warm water on the feet; tormented with blisters, pepper, and mustard, and I know not what else; but I would not give a single dose of opium for a thousand such remedies.

In milder cases of this disease, opium still has its place.—Where there is a rise of fever, with restlessness at night, give ten grains of Dover's powder at nine o'clock or later. If it is given too soon, the quiet it is calculated to produce, may not follow its administration. It should be given when the fever is declining. The dose may be enlarged, even doubled, in cases of great restlessness. If the fever runs an even course, without much rise at night, give a smaller dose, say eight grains twice a day, morning and evening. This remedy allays irritation, gives quiet and comfortable nights, and may be given during the whole course of the disease. Where the bowels are disordered, laudanum or solid opium should be given instead of the Dover's powder. Twenty to thirty drops of laudanum, or a grain, or a grain and a half of opium, will be a proper dose. For many days, during the first stage of typhoid fever, I frequently administer no other remedy but some preparation of opium. But if the disease is of a higher grade, with more fever and local disease; other remedies may be added or substituted.

When the fever is high, pulse full and strong, and the patient's strength not yet exhausted, though the pain and restlessness may be great, there is doubt of the propriety of giving opium. Remedies to reduce the pulse should first be used, such as cold applications, and sometimes emetics. The question of giving opium is often doubtful and embarrassing. Writers say it may heighten all the symptoms of fever, and render coma fatal. This is the view of those who see inflammation in every heated body. My own opinion is that the error has been, in withholding the opium. The excitement of typhus differs from inflammation. It gives way to the slightest depleting remedy, and especially is it allayed, quieted, and subdued by opium. A late writer who had often witnessed the inefficacy of leeches, cups, and saline mixtures, in allaying the heat, pain, and restlessness in these cases, says, give laudanum in small and repeated doses, so as to allay the pain

without exciting the fever. Try the remedy, but do it with great caution. This is a very bad mode of giving opium in doubtful cases. If it will do good, it is only by giving a sufficient dose at once. The excitement of the first hour may be dreaded, but after that the operation is favorable. I do not repeat the remedy, in less than six hours, and commonly not then. If the dose has been sufficient, its effect will continue for twelve hours or longer. It is the anodyne effect we desire, in these cases.

And now I am to make my last appeal in favor of opium in typhoid fever. I come to the great argument in every contest of this kind, my own experience. I have, for thirty years, given opium, as I have advised it in this essay. I think my practice has been more successful, than a different course would have been. The immediate effect of the remedy is most soothing and comforting to the sufferer; its ultimate ill effect I confess I have not seen. True, it does not always relieve delirium or coma, it does not always still the agitation of the system. But it is also true, that in a great many cases, it affords the most obvious relief. It removes the wakefulness, restlessness, and muscular pains, so troublesome at night in slight cases, like a charm. It often allays the graver symptoms of delirium and throbbing pulse, and I have seen it successful in removing the deepest coma, in the first stage of the complaint. The error has been in withholding opium in these cases.

Sudorifics and diuretics, or medicines producing perspiration, or operating on the kidneys to produce an increased flow of urine, have long been regarded as remedies in fever. They are of less value than has been thought, and have been of late, a good deal neglected. I shall mention a few of them, with the remark that the same article commonly operates to increase both these discharges, and that I think they are sometimes useful in typhus.

Sweet Spirit of Nitre—the *Spiritus Aetheris Nitrici* of the dispensatory, is probably the best of these remedies. It may be given, even where the face is flushed, and the skin dry and hot, but is still more useful where there is a pale countenance, dry skin, and moderate fever, with dry mouth, and a small discharge of urine. A teaspoon full is a full dose, and it may be repeated once in two hours. It may be expected to produce a moderate perspiration, and a moderate flow of limpid urine. More than this ought not to be required of it in typhus, and when these effects are observed, it should be suspended. Larger doses of this remedy may be safely taken, and more

decided effects produced, but such use of it is not proper in this disease. The remedy may be repeated, from time to time, according to the discretion of the physician, throughout the disease. It should not be kept a great while before it is used, as it deteriorates with time. Acetate of Ammonia, is also a remedy which may be given in the highest state of typhoid fever, to promote perspiration, and also to increase the flow of urine. A table spoonful of the solution may be given once in two or three hours, for a day or more at a time. It is a mild remedy, comfortable to the stomach, and has maintained its ground a long time in the treatment of this disease.

Nitrate of Potash, or Saltpetre, deserves a place here. This salt is a sedative medicine, and proper in typhus, when the fever is high, and the pulse rapid or strong. It may be given in doses of from five to ten grains every two or three hours. This is a valuable remedy, reducing heat, promoting perspiration, and passing off freely by urine; but can seldom be long continued in typhus, as it is apt to operate on the bowels, when all its good effects seem to cease—and the debility which it produces is hurtful.

Tartar emetic is not to be omitted, while discussing these remedies. Its power to repress fever, and promote the secretion of urine and perspiration, are decided. It is less useful in typhus, than in malarious and inflammatory fevers; because of its tendency to operate as a wasting, water discharging cathartic. When it produces these effects, its use in typhoid fever must be suspended. We have before stated the manner in which it may be given as an emetic, in high grades of this disease. But it may be given in broken doses, one eighth of a grain every two hours, to lessen fever, and allay irritation and pain. The doses may be increased or lessened as its effect is more or less obvious, and if it begins to operate as a cathartic, stop the use of it, and give twenty or thirty drops of laudanum.

Tartar emetic may be given alone, or together with either of the remedies we have just mentioned as sudorifics or diuretics. In these combinations it is to be recollected, that the tartar emetic is the active ingredient, and its effects are to be first regarded. It should also be borne in mind, that these combinations are only proper in the highest degrees of fever, and to be discontinued as soon as the action is reduced. A few hours will commonly be long enough to continue these remedies at one time. When the combined use of these remedies is resolved on, the tartar emetic may be given separate, or combined. If the Spirit of Nitre, or Acetate of Ammonia is given,

give the tartar emetic separately, in doses of one eighth of a grain, once in an hour or two, according to circumstances. With the Nitre or saltpetre, it is conveniently combined in the antimonial solution. Take two drachms of nitre and two grains of tartar emetic, and dissolve them together in half a pint of water. A table spoonful may be given once in two hours. This is very active treatment in typhus, seldom called for, and never to be long continued.

If the occasional use of stimulants and anodynes in the first stage of typhus has been questioned, there is a closing stage in which there is no dispute over the question. All agree that in the last stage of typhus, stimulants and tonics are the proper remedies. The great question is, when to commence with them; and I give it as my opinion, that you will hardly do it too early. Try the stimulants, and anodynes, and watch their effects closely. If they increase the fever and quicken the pulse, suspend them; if they quiet the patient, and render the pulse slow and round, they are proper and to be continued. These observations may be made two or three hours after the remedy is given.

The first of these stimulants which I shall mention is the favorite prescription of professor Barton; the hot infusion of bark and snakeroot. Take of Peruvian Bark two ounces, Virginia Snakeroot half an ounce, pour on them a quart of boiling water, and let it draw well by the fire. A wineglass full of this is to be given, from two to six times a day, according to circumstances. Where the prostration is great, add ten or twenty drops of laudanum to each dose. I prefer this remedy to sulphate of quinine; but where the quinine is most convenient, give two grains of the powder, in place of each dose of the infusion above recommended.

The next stimulant, in my estimation, is good spirit, especially brandy. It is to be given, under the same regulations with the bark and snakeroot. Two or three table spoonfulls in water, or sugar and water, is a dose. It is a questionable remedy in the onset of the disease, but towards its close there is no doubt of its propriety. It is to be given to keep up the strength and restore the warmth, when it is failing. Many articles have been recommended for this purpose. Wine whey is the most common. But if alcohol is prescribed, let it be given in a way to be understood. Give a certain measure of brandy, and you understand your prescription. Do not be afraid of this remedy; if it is proper to use it at all, it should be used in sufficient quantity. In sudden attacks of spotted



fever; a mortal typhus which some years ago prevailed at the north, I have read, and I believe, that a quart of brandy was often beneficially given in a day. I have given half as much in my own practice; but in most cases a few ounces in a day are sufficient.

Ammonia or volatile alkali, has great reputation in these cases. Take sixty grains of volatile alkali, and two ounces of mucilage of gum Arabic. Rub them in a mortar till the solution is perfect, and give a tea spoonful or two hourly. It is given where the prostration is great, and the patient sinking.

These are the remedies which I recommend for typhus fever. They are more numerous than I had expected they would be; but their number might be greatly increased.— They are by no means to be all used at once, but varied and combined, according to the directions given. If any error is committed, it is better it should be on the side of giving too few than too many remedies.

But we are not yet done with this subject. Typhoid fever is a tedious disease, affecting, in different cases, various organs and tissues of the body, and producing local injuries requiring particular attention. Our patient must be nursed and sustained with food, and his local disorders must have their appropriate remedies.

The patient in typhus is not only sick; he is torpid and reckless. Every thing must be done for him, for he will not even call for the necessaries of life. He must be watched, watered and fed; lighted, aired and turned in bed, for none of these things will he demand for himself. His clothing and bed clothes must be frequently changed, and for his own safety, and for the safety of his nurses, he must have room and free air. This is sometimes difficult to manage in cold weather, and the disease is consequently apter to spread in winter. The physician should always direct a free ventilation, and forbid a crowd around such patients.

Food and drink, are also to be regulated without much reliance on the patient's desires. He is seldom thirsty, and in many instances the tongue will be found as dry as paper, and the patient deny having any thirst. His tongue should be moistened, and water offered him. He will often drink freely, and seem only to have remained thirsty from inattention. As a general rule, water is the best and the safest fluid which can be taken. It is hardly ever necessary to warm it even with a toast. The quantity of water, and other fluid taken, should be noticed by the nurse. It should not be large. A quart, or



thereabouts, is enough for twenty four hours. A larger quantity might cause diarrhœa, which is so troublesome in this fever. It is difficult to give rules as to food. The patient will frequently refuse it for days together. What he takes should be nutritious and easy of digestion. Beef tea, has made a great figure amongst the dishes for the sick in typhus. It is very nutritious. In this country our patients are offered chicken soup, which I think as good. I have no objection to a cup of tea evening and morning. It serves for food and drink, and is often more acceptable than any thing else. Milk and mush, or hommony, is a rich food for such patients. A great many articles might be mentioned here, but it is only necessary to say that they should not be too poor. The gum water and thin gruel, which Broussais thought the beginning and the end of remedies, are useless or pernicious. If the patient takes any thing, it should be nutritious ; for it is not to be forgotten, that typhoid fever is a disease which may continue for many weeks, and that the patient cannot exist so long without nourishment. If his stomach can digest food, it ought to be taken.

A sound discretion should be used in regard to food and drink in this disease. During its first stage, and while the fever is high, let but little food be taken, and allow drinks more freely. When the disease has passed its highest point, and lingers and lingers it out, for weeks together, let the nourishment of the patient be a principal object. In extreme cases stimulants may be combined with food. Wine whey has had its day, and may, in milder cases answer well enough. But it is a poor and feeble remedy and still poorer food. Milk-toddy is a remedy of more value. In this, the articles combined may be estimated, and their strength proportioned to the necessity of the case. They are nutritious and supporting in a high degree.

#### REMEDIES FOR PARTICULAR SYMPTOMS OR COMPLICATIONS, AS THEY ARE CALLED, IN TYPHOID FEVER.

This disease, when it is protracted and of a high grade, commonly brings on, or is attended with, some local disease. It seems to be thrown off, on some organ where it produces its peculiar effect. On the intestines, it produces little patches of inflamed spots, which sometimes end in ulcers, and even perforate the bowels and cause death. On the brain and nerves, it produces prostration or paralysis, with coma or delirium. On the skin, it produces a light eruption of a distinct kind, which

is characteristic of the disease, but so slight as to require little attention. On the sacrum it produces ulcers, which have been denominated bed-sores, and attributed to the pressure of the patient's body, in lying too much on the back. I think they are not entirely dependent on that cause, but are a peculiar effect of typhus. In the glands of the axilla, or groin, or near the angle of the jaw, it in a few cases produces abscess, which seems to terminate the disease. On the lungs, it also seems in some instances, to produce a low degree of inflammation in the last stage of the disease.

In all these cases of local affection from typhoid fever, there is a peculiarity which belongs to the disease. It is no common inflammation, but a typhus affection, which does not yield to the remedies for common inflammation. Our remedies are used with less effect, and less confidence than from the symptoms we might expect.

#### OF THE REMEDIES FOR COMA.

This is frequently an embarrassing symptom. The brain admits of no enlargement or diminution, but always fills its bony case. If, by any means, the blood is forced on it, in a way to increase the pressure, a state of profound sleep or coma ensues. If, on the contrary, the circulation fails to supply the requisite pressure to the brain, a state of fainting, resembling coma, takes place. Now these states, from causes so opposite, are not always easy to discriminate. In typhoid fever this discrimination is the more difficult, as the disease is one of weak action, and even in its resemblance to inflammation, the symptoms of inaction and debility predominate. When we find the patient affected with coma in typhus, and with difficulty so arouse him as to get him to speak, and see him drop off in an instant into a profound sleep, we are not to conclude as a matter of course, that his brain is oppressed with the circulating blood. The symptom may arise from a contrary state, or from some unknown cause, operating on the source of the nervous power. Coma is therefore to be treated with remedies of opposite kinds, according to the cause which induces it. The decision is often difficult, but must be made.

If the coma takes place early in the disease—and accompanies high fever, flushed face, and full pulse, the presumption is strong, that the brain is oppressed with too rapid a flow of blood into it. The remedies recommended are cold applications to the head, cupping, leeching and mild cathartics.

These remedies, it will be seen, are modified, and not of the potent kind, used in inflammation of the brain. The full bleeding, ice water, and powerful cathartics used for that disease, are never proper in typhus. Even the milder use of the same remedies, which I have recommended, is to be carefully observed and suspended if the pulse give way too rapidly. If the coma is removed, the remedy may be suspended, till it returns again.

But I think coma in typhus, is seldom caused by too much pressure on the brain. If the pulse is feeble, and as I have often found it, slow; if the face is pallid, and the patient quiet and still, I think no depleting remedy is proper. If there is a rapid pulse, moist skin, cold extremities, paleness, and yet burning heat of the body, with muttering and restlessness, still I think there is no pressure on the brain. The danger may be imminent, but not because of pressure on the brain. In these cases, and I think they are the most common in typhus I give stimulants. Opium is the first, and brandy is the next, to be chosen in these cases. They are to be graduated to suit the case. If the attack has been sudden, and the symptoms are decided and strong, give two grains of solid opium, or laudanum, or morphine of equal force.— This may be repeated in four hours, if necessary, and afterwards according to circumstances. If the coma gives way, as it sometimes will, lessen the remedy, but do not abandon it at once. Where the symptoms are milder, the remedy is to be accordingly reduced in quantity. Brandy is a pure stimulant, and, in these cases, the best we have to support the sinking powers of the patient. It is to be used most freely when the attack is sudden, two or three table spoonfuls, in sugar and water, may be taken hourly, till its effect is fully tested. It will be useless to try other stimulants if these fail. If the coma continues for days, the head should be shaven and blistered. I have seen this remedy appear to remove coma, and bring on better symptoms. The paralysis which sometimes comes on in coma, admits of no immediate relief. Time and gentle exercise, with friction and moderately stimulating applications, should be relied on as our best agents.

The affection of the bowels, which is commonly present, gives rise to some of the leading symptoms, and peculiar dangers of the complaint. Examinations after death have shewn that the small intestines suffer most, and that although they are sometimes free from injury, they oftener shew signs of inflammation, and sometimes a perforation and escape of their

contents into the abdomen, has happened. Tenderness and slight tumefaction of the abdomen, are the common symptoms of this affection. In worse cases there is considerable pain, and the bowels become very much inflated, with noise and rumbling, from the passage of the air from one portion of the intestines to another. But when a perforation takes place, these symptoms are greatly aggravated. The pain becomes suddenly intense, and the abdomen swollen and tense.

The remedies for these symptoms, it is on all hands agreed, have not proved themselves worthy of much confidence. I have seen leeching, cupping, and blistering tried, and can say but little in their favor. Where there is much pain and tenderness, I prefer blistering. But in common cases, I depend on the soothing effect of an emollient warm poultice. It may be made of corn meal, wheat bran, or any other convenient article. It should be put in a bag, applied warm, and renewed from time to time. Heat in a dry form, by hot bricks or bottles of hot water, may be used with equal benefit. But where the pain is considerable, and especially where there are symptoms of perforation of the intestines, laudanum is the remedy. This is I believe a conceded point; give two or three grains of opium, and after producing sleep and ease by this means, enjoin a state of perfect quiet. There is still a ray of hope left.

A new remedy is in a course of trial for this disorder of the bowels. The tenderness, which is thought to betoken an inflamed, or ulcerated state of the intestines, is treated with the internal use of nitrate of silver, or lunar caustic. From half a grain, to a grain, dissolved in water, is given twice a day, for several days successively; or till certain dark colored stools pass from the bowels. This practice is said to have been successful, and I think it worthy of a trial. Spirit of turpentine is highly recommended by Doctor Wood, in these cases. He advises doses of from ten to thirty drops, three times a day. I think favorably of this remedy, and have used it in a few cases. I think the dose may be well extended to a tea spoonfull, and repeated once in four hours, till it operates as a cathartic. Used in this way, it operates less on the urinary organs, and I should expect better effects from it in the typhus affection of the bowels.

Diarrhœa is a troublesome and dangerous symptom of typhus fever. It exists when the ulceration is present, and in some fatal cases, where it is not. We cannot therefore charge it to the ulceration or inflammation. It is a common symptom of typhus. It is agreed that neither cathartics nor laxatives of



any kind, have any beneficial effect on this diarrhœa. They have been tried with sufficient perseverance, and I may say, injury. Astringents and anodynes form our main reliance. Take of sugar of lead ten grains, opium three grains, and make into four powders. These powders, are in moderate cases, an allowance for two days, give one evening and morning. In extreme cases, the whole may be given in one day. This remedy may be continued as long as it is found useful. There is no danger of its producing colic. Opium alone is a powerful remedy to check discharges from the bowels, in this disease. From half a grain to a grain may be given, two or three times a day. Other astringents may be tried. Gum kino, in doses of from five to ten grains, or tincture of kino, in doses of twenty or thirty drops, have been found useful. Galls, which contain tannin, the principal astringent substance of oak bark, are probably the best article of this kind. They may be given in powder, in doses of from five to ten grains, two or three times a day.

Absorbents and alkaline remedies are useful in these cases. Take of prepared chalk two drachms, laudanum forty drops. Drop the laudanum on the chalk, and mix it together, till it can be divided into four powders, and give one every six hours. Ten grains of carbonate of soda may be given, four times a day, in place of the above powders. Twenty drops of laudanum may be given evening and morning, during the same time.

Of these remedies for diarrhœa, opium or laudanum is unquestionably the most important. It affords, at least a temporary check to the complaint. The combination of prepared chalk with it is an excellent prescription, and, in moderate cases, is to be preferred. The sugar of lead and vegetable astringents, are required, when the discharges are copious and watery, but the laudanum is still to be used as the case may require.

Bed sores are not, in my opinion, the mere effect of pressure on the part. I have often met with them, and attended to them in their commencement. Before the skin is broken, I have noticed a tenderness and doughy softness of the part. The spot when it comes, is a real mortification, and too deep to be accounted for by pressure on the surface. These sores are to be treated with stimulants. When they first appear, a blister containing bloody serum, will be seen. After the blister is broken, the sore is pale, surrounded with a livid, reddish margin. At this stage, I have used hot poultices of bran, made with vinegar; I have thought these arrested the mortification,



and promoted the sloughing, or separation of the dead flesh. When this flesh comes away, the sore will be found ragged, deep, and foul. It should be dressed with lint wet with tincture of myrrh. Let the patient lie on his face, and fill the ulcer with lint. Drop a sufficient quantity of tincture of myrrh on, and cover it with a plaster of simple ointment. It will require daily dressing.

These bed sores are a more serious malady than I have seen them represented. I have seen them penetrate to the bone, and cause exfoliation, and paralysis of the lower extremities for life. The mortification often extends lower down than the sacrum, but never higher up.

#### RECAPITULATION OF REMEDIES.

1. Recollect, in the first place, that too many remedies are not to be given at the same time. Remember also, that this is a disease attended with great weakness, and that the remedies are to be mild, or strengthening. As a general rule, I draw no blood, I administer no active cathartics in typhus. This caution is the more necessary, as the inexperienced are commonly ready with these powerful, exhausting remedies, in every sudden attack of disease.

2. *Emetics*. If, at its commencement, the disease is attended with great sickness at the stomach, vomiting, or straining to vomit, restlessness and high fever, give an emetic of ipecac, or tartar emetic. The ipecac is the mildest, and is to be given in a full dose at once, say twenty or thirty grains in water. If it does not operate in ten minutes, give freely of warm water till it does operate. Tartar emetic is more powerful, and may be given to robust persons, who are more capable of bearing its force. Give two grains of tartar emetic at once. If it does not operate in half an hour, give freely of warm water till it does operate. If the patient will consent, give the tartar emetic in a tea cupfull of warm water at once. Tartar emetic is slower in operating than ipecac. Both should be made to operate promptly, as they operate as cathartics, if they are not thrown off by vomiting. Very few cases of typhoid fever, require the use of emetics.

3. *Opium*, is the great remedy in this disease. If emetics operate with violence, or commence operating as cathartics, give thirty drops of laudanum or a grain and a half of opium. These doses, or smaller ones, may be repeated according to the urgency of the symptoms. But this is not the only use

of opium, in typhoid fever. It is a leading remedy of itself. If the attack is sudden with delirium or coma, however rapid the pulse, or heavy the breathing, give opium. Give two grains at first, and a grain at a time afterwards, once, twice, or three times a day, according to circumstances. Its use is to still the agitation, support the patient, and hinder a fatal termination of the case. I have seen it produce the happiest effects, in cases in which the British physicians would have bled freely, the French would not have ventured beyond leeching and gum water; and very few, in any part of the world, would have given the best of all remedies, opium. In milder cases opium is still the best remedy. Where the patient is torpid, the pulse low, and the hands and feet cool, with some increase of fever and restlessness at night, give opium, in the form of Dover's powder. Ten grains of this powder, may be given in water at night. If the case is bad, repeat the remedy once in eight or twelve hours. If the bowels are disordered, or the powder causes vomiting, give twenty drops of laudanum in place of the powder. Finally, recollect that in the last struggle with the disease, when the powers of life are failing, opium is the most valuable of all remedies. Give it alone or combined, with brandy or other stimulants. From one to three or four grains of opium, every twenty-four hours, may be given at the discretion of the physician. As the disease approaches a close, the remedy should be given in smaller doses at shorter intervals. No patient who can swallow, is too low to take opium,

4. *Cathartics.* I have said, that active cathartics are improper in typhoid fever.\* It does not follow, that remedies of this class are always improper. As a general rule, give no cathartic of any kind, but when the bowels are confined, and there is pain and considerable heat in the early stage of the disease, give a mild cathartic. Give five grains of calomel at night. If it operates a single time by the next morning, give nothing more. If it operates twice give twenty drops of laudanum. But if it fails to operate in twelve hours, give twenty grains of rhubarb. These form the best means of moving the bowels in this disease. But there are some persons, to whom calomel is a drastic, nauseating, and griping cathartic. If such require a cathartic, a dose of rhubarb alone may be substituted, or castor oil, if it be more acceptable. The rhubarb is the mildest and best; the oil, frequently produces griping and sickness of the stomach. When the patient is very much exhausted, injections of soap suds, or

thin gruel may be used, and are sufficient, if they produce any natural discharges. The saline cathartics, such as salts, seidlitz powders, or magnesia, are less proper than those I have mentioned. It is to be remembered, as a general rule, that cathartics are not to be used without necessity in typhoid fever, and that some degree of costiveness is always a good symptom in this disease.

5. *Tartar emetic.* This is by far too active a remedy, in most cases of typhus. But there are cases in which the pulse is strong, and the heat and restlessness great. In such cases, one eighth of a grain of tartar emetic may be given once in two or three hours. In this manner of giving it, tartar emetic is not apt to produce vomiting, and is not an emetic. It is valuable in lessening the circulation, but is to be suspended if it operates on the bowels.

6. *Nitre, nitrate of potash.* This is a cooling remedy, often beneficial in the low, protracted, burning fever of typhus. It may be given in doses, of from five to ten grains in water, five or six times a day. If the pulse is strong, and the skin dry, the antimonial mixture may be given during some part of the day; say once in two hours, till four or five doses are given. These remedies, the tartar emetic and nitre, whether given combined or separately, are to be carefully noticed and checked with laudanum, if they operate on the bowels.

7. *Cold.* I consider the power we have of lessening the heat on the surface of persons in typhoid fever, one of our most valuable remedies. This we can accomplish at pleasure, by the application of cold air, or cold water. Patients, in this fever, do not often complain of heat. They are, in a degree, insensible, and whether they are too hot, or too cold, is to be judged of, by the physician or nurse. If the hands and feet are cold, it will be premature to apply cold in any form. But during a great portion of every day, the heat will be found to be diffused over the whole body, and then it is proper to moderate it by artificial means. In cold weather, it is often sufficient to lessen or remove the covering for a time. When the skin is hot, and the patient restless, a stronger remedy is proper. Cold water should be applied by means of towels to the feet, hands, and face. It may be extended over the limbs, or even over the whole body, if necessary. This application should be made, when the fever is at its height. It should be continued, till the heat is sufficiently reduced, and not so long as to give the patient much distress from the cold, or to reduce the pulse too much. It is commonly sufficient to apply the cold water,

from fifteen minutes to half an hour at a time, and once or twice a day is often enough to use it. This remedy may be used from day to day, as long as it is found necessary. It will not hinder the return of the fever, however cold the patient may be made, but like all of the remedies recommended in this fever, it should be used with sound discretion and moderation, and I have no doubt of the great benefit it will accomplish. On the other hand, let no idle fears of taking cold, prevent the use of cold water in typhoid fever. If, in the application of the water, the linen and bed clothing get wet, do not have them changed, but let them dry, by the returning heat of the patient's body. Where the heat was great, I have, in many instances, purposely wet the clothing, that the heat might be longer kept down, to a low degree. The power of cold is greatly increased by the application of cold air, by means of fanning. This should therefore be added to the cold water, when necessary. In all cases, the pulse should be examined from time to time, and not reduced so much, as to endanger the patient; and it is never to be forgotten, that the powers of life are especially weak in typhoid fever.

8. *Acetate of Ammonia.* This remedy, which is prepared for common use, by dissolving carbonate of ammonia in common vinegar, has long been used in typhoid fever. It is gently stimulating and diuretic, and may be given as freely as it can be borne, without operating as a cathartic. A table spoonful may be given at a dose, but if the vinegar has been strong, and thus required a large proportion of the ammonia for its saturation, the dose may be lessened. A dose of this remedy may be given every two or three hours, and if it operates on the bowels, stop it for the time. This remedy may be given for many days in succession, but I think it best to suspend it, at least eight hours out of every twenty-four.

9. *Sweet Spirit of Nitre.* This is an old remedy, but still worthy of its place in the treatment of typhus. It is so mild in its operation, that almost any quantity may be given safely. Its visible effect is seen in producing perspiration, and a free discharge of urine. The want of the discharge of urine is seen in every case of typhoid fever, after the first three or four days. A tea spoonful of the spirit of nitre, may be given in water, three or four times a day. If the discharge of urine becomes free, and the skin moist, stop the remedy for a time.

10. *Quinine.* This remedy has but a limited place for its use in typhoid fever. When the patient becomes very low, I am in the habit of giving three or four doses of two grains, in com-



bination with laudanum, in the course of the day. But I prefer the hot infusion of bark and snakeroot. Take two ounces of Peruvian bark, and half an ounce of Virginia snakeroot, put them into a pitcher, and pour a quart of boiling water on them. After this infusion has settled, pour off a wine-glass full for a dose. It may be given six times a day, with or without laudanum, as the case may require.

11. *Brandy.* Brandy, or alcohol in some form, is the best of all stimulants, and will in many cases be useful in typhus. Where it is our object to give support to sinking nature, we cannot prudently omit brandy, or other good spirit. Towards the close of typhus, there are many cases in which, from excessive discharges by the bowels, or too copious perspiration, the patient is brought into great peril. In these cases, give brandy. Two table spoonsful in sugar and water, is a common dose, and may be repeated according to the necessities of the case. Where the prostration is sudden and early in the disease, the brandy is the more necessary. I have in such cases, administered a pint or more, in the course of the day and night, with the happiest effect. This is the chief stimulant which I use in typhoid fever. A great many others have been tried, but as I think without any advantage. It may be used at any period of the disease, with a little care to avoid the period of most excitement.

12. *Cleanliness, fresh air, and pure water,* are remedies for typhus. There is no excuse for the neglect of cleanliness, in typhoid fever. The clothing, and bed clothing of the patient, ought to be changed daily, or at least once in two days.—Where from poverty, this becomes impracticable, still cleanliness is to be rigidly enforced. Where the case does not admit of cold bathing, the skin should be cleansed with warm water and soap. A free ventilation of the apartment of the sick, is also indispensable. This is to be constantly attended to, even in winter. Nor should the patient be allowed to forget the use of cold water. If his bowels are disordered, he will sometimes be thirsty, but he will more frequently forget to ask for water. A reasonable portion of cold water should be always offered to the patient, unless from extreme weakness, it is thought best to combine it with some stimulant.

13. *Remedies for particular symptoms.* Coma, or a state resembling a deep sleep, in some cases, takes place at the beginning, and in others at the end of the attack. If this symptom occurs in the beginning, and there is great heat, and a full pulse, the application of ice to the head, with cupping or leech-

ing, may be proper. But if this symptom takes place with cold extremities and feeble pulse, especially late in the disease, beware of the abstraction of blood, or the free use of cold applications. On the contrary, use opium, brandy, and other internal stimulants freely, and apply mustard and other stimulants to the surface of the body. Shave and blister the head, when the patient does not seem too much exhausted to wait for its action. *Diarrhoea*, with or without pain in the bowels, requires much of the physician's care in the treatment of typhus. The pain will demand the use of opium, and it is to be used in some form, to the extent of from one to four grains of opium in a day. To this, add two grains of sugar of lead, three or four times a day, or from five to ten grains of galls in powder, two or three times a day. Tincture of kino is also a powerful astringent, and useful in these cases. From thirty to sixty drops may be given three or four times a day. Absorbents may be beneficially combined with opium. Take of prepared chalk two drachms, laudanum thirty drops; rub them in a mortar till they can be divided into four powders. Give one of these powders every four or six hours.—*Bed sores and abscesses*, require no treatment which is peculiar to typhus fever.—When inflammation takes place, with much swelling at the jaw, under the arm, or in the groin, apply warm poultices till matter is formed, and then discharge it with the lancet.—When the lower part of the back is found tender and swollen, apply hot poultices also. But here no suppuration will happen, but a spot of mortification will take place, if it is not arrested. As soon as the mortification takes place, and the dead spot with or without broken surface is obvious, stop the poultice and dress with lint and tincture of myrrh, covered with a plaster of simple ointment. The dead flesh will slough out under this dressing, and the place gradually heal. After the ulcer becomes clean, and free from any portions of dead matter, the offensive smell will cease, and the tincture of myrrh, may be discontinued.

---

## MALARIOUS FEVER.

Fevers which arise from the effect of the heat of summer, on decaying substances in moist situations, have been termed *Malarias*. These are the periodical fevers of the temperate and torrid zones; endemic in certain localities throughout these

vast regions, and productive of more disease, than any other known cause. Their variety is so great, as almost to forbid the attempt to describe them. Of the one hundred and fourteen varieties of fever defined by Dunglison, no less than fifty, are such as are thought to arise from this cause. To this list of fifty, it would be easy to add a dozen more, from the cases I have myself witnessed; but it is in my opinion, far better to reduce than to multiply these titles.

Medicine is not a science of demonstration; and on this theme especially, physicians have *agreed to differ*. Without thinking that I shall settle a single dispute, or establish a single opinion, I shall attempt to reduce this subject to something like order, and to place my views, and my system of treatment, within the comprehension of every reader.

Three principal varieties, comprise this great class :

1. Yellow Fever.
2. Bilious Remitting Fever.
3. And Intermittent Fever.

Few diseases would seem to differ more than the mild intermittent, and the yellow fever; but tracing the intermittent through its forms of gradually increasing violence, to the bilious remittent, and this last, through its increasing violence and lessened remissions, till we meet with yellow fever, in which there are no regular remissions and paroxysms; and finding that all stand in the same relation to the same cause, we are compelled to see that those who regard their numerous forms as mere varieties of the same disease, are supported by strong probability. In the study and treatment of intermittent and common autumnal or bilious fever, I have had ample opportunity, but never could satisfy myself that there is a line of difference between them. In yellow fever, my experience has been slight; but so far as it goes, and so far as I have been able to trace the analogies of these diseases in the descriptions of others, I think this formidable name cannot be separated from the other two. That the yellow fever of Philadelphia, described by Doctor Rush, and the same disease as described by acute observers elsewhere, is identical with the bilious fever I have treated in this place, I have no doubt. I therefore regard the whole of these varieties of fever, as one disease, requiring treatment suited to its various forms, but depending on the same remote cause.

---

YELLOW FEVER.

This is the highest grade of malarious fever; but as it does not occur so frequently in the temperate zones, and has not been much under my own observation, I shall offer on it a very brief essay; reserving the principal remarks I have to make on its cause, to be treated of, under the head of bilious fever.

I offer no argument in favor of the opinion, that yellow fever and bilious remitting fever, are but modifications of the same disease. This would be a waste of labor; and I leave it to others. But I will say, that the facts which are known, and the analogies which suggest themselves, place the forms of malarious fever too close together to be easily separated. I therefore place yellow fever, first on the list of malarious fevers.

Yellow fever occurs under the same circumstances with bilious fever, and I believe both commonly prevail at the same place, about the same time. Their symptoms so run into each other, that systematic writers commonly avoid the attempt to discriminate between them.

I should be content to follow this example, but, that the difference which does exist, seems to me to suggest important differences in the mode of treatment; and I think the subject cannot be perspicuously treated without being divided.

It is important to note the differences, which exist between these varieties of fever. Bilious fever is a disease of paroxysms and remissions—yellow fever in its first attack, is one great paroxysm, lasting for several days, if the patient survives so long. In bilious fever there is commonly a copious secretion of bile—in yellow fever this symptom also occurs, but runs into a vomiting of a brownish matter resembling coffee grounds, and known as *black vomit*. This is the leading symptom of fatal cases. In other respects, there is great similarity in their symptoms and effects. Both diseases occur in warm or tropical climates—in hot weather, after a lengthened period of heat, and their violence is thought to be proportioned to the heat of the season. It has been suggested that yellow fever is found to occur near the sea shore, where the tides are brackish, and this I think is generally true. The only cases I have seen, occurred in individuals who having in the summer visited Charleston, in South Carolina, came up the country before the disease made its appearance.

“The approach of yellow fever is often announced by a feel-



ing of lassitude, heaviness, oppression, loss of appetite, and slight headache, which in a few hours, or on the following day, is succeeded by the violent symptoms of the disease. Sometimes however, the attack is sudden and violent from the first; the patient is seized with a faintness and giddiness of the head, with a slight degree of chilliness or horror, but never with a complete rigor or shivering; these feelings are immediately followed by a high degree of fever, and scorching heat of the skin, accompanied by acute, darting pains in the head and back, and a strong beating of the arteries; the face and neck are flushed and tumid, the eyes red and protruding, and the countenance grim; great anxiety and oppression are felt, with an intense, burning pain at the stomach, with sickness and violent heaving, in which bilious matter is brought up; afterwards the discharge becomes a dark colored, and sometimes a bloody fluid." These symptoms continue from one to three or four days, without abatement, when the fever subsides, having gone through its first stage. The second stage begins with an abatement of the symptoms; sometimes, says Doctor Mosely, "The symptoms are so mild that the disease is supposed at an end. This deceitful interval is short in the most violent cases, but is sometimes of many days duration. The disease returns without any premonitory sign, and assumes its most violent or fatal symptoms, frequently hurrying the patient to an untimely grave in a few hours. The great distress at the pit of the stomach, with diffusion of bile in the system, and corresponding disease found after death, in the liver and stomach, characterize this disease, and mark its identity or close alliance to bilious fever.

The disease is not always of the violent and rapid type above described. The few cases I have witnessed, were slow in their progress, and we have the high authority of Doctor Mosely, for the fact, that there are cases which do not run to a regular termination, but are "lengthened out, and at last converted into a remittent of great duration, of most difficult cure, and tedious recovery." Trusting that my readers may never meet with a case of this fatal disease, I cut short this account of its symptoms, and ask permission to introduce to their notice a short account of my own experience in yellow fever.

In the year 1840, having been on a trip to the North, I arrived in Charleston in August, where I remained one night.—A week or ten days afterwards in Milledgeville, I became sensible that my health was deranged. Sluggishness and oppression about the stomach, are all the symptoms I recollect;

but these were so considerable as to be noticed by my friends. Fever came on about the fourteenth day. Severe pain in the back and limbs, fullness and dull pain in the head, with slight chilliness and restlessness were experienced. These symptoms became worse, and were attended with eructations of air in quantity. A copious flow of limpid urine, and a dry skin, with but little thirst, complete the prominent symptoms of the first two days.

For three days the symptoms were about the same, and it was not till the fifth day, that the fever subsided. My skin, and the whites of my eyes, had become of a deep orange color, and the urine and discharges by the bowels were of the deepest orange yellow; exceeding any thing I had ever seen in bilious fever. I felt no particular pain, but sensations of peculiar oppression about the stomach, which did not subside for many weeks, and indeed after a lapse of six years, are still frequently felt.

I continued in this state for six or seven weeks; not confined to bed, but with no improvement in feeling or complexion. At length, accident threw me into great effort under great mental excitement. I sunk from this, into a profound sleep for eight hours. I was aroused with vomiting, almost incessant, and intolerable thirst. I was in no severe pain, and felt but little nausea, but every thing I swallowed returned unaltered. The water I drank, which I received in my hand to examine for black vomit, returned nearly as cold as it was swallowed. With these symptoms, a rapid pulse and haggard and swarthy countenance, few who saw me expected my recovery.

The legislature was in session, and Doctor White who was in attendance, called to his aid, several eminent physicians.—They decided to give me thirty grains of calomel and three of opium, and to repeat it hourly till a change occurred. I took but the first dose. About an hour afterwards, I vomited with a distinct sensation of the contents of the first intestine, passing into the stomach. I received the discharge in my left hand—it was the signal of life or death—guess my relief in seeing it, of well formed yellow bile. The load I had felt at my stomach for nearly two months, was gone—I was out of danger—I took nothing more.

The next case I shall mention, was attended with a fatal result. A gentleman who came from the city of Charleston, to Milledgeville, after about a week, was attacked in the same manner. His fever lasted about seven days, when a crisis seemed to have happened. His recovery was but an illusion;

for in a day or two, he was attacked with vomiting, and in a few hours the evidences of black vomit were clear. He sunk under it in about two days.

I need not say much more in the description of yellow fever. It is a continued and violent fever, lasting from two to ten or fifteen days. It is, as it were, one great paroxysm, and often produces death, by its first onset, or by the internal damage it has done. The black vomit, and yellow skin, do not occur early enough to be relied on as the guiding marks of the disease. Time and circumstances may give a strong probability; but I doubt whether the symptoms alone will at first point out the disease to the most experienced practitioner. This is less to be regretted than might be expected, for it produces no alteration in the practice. The usual remedies for a fever of high excitement, will be proper in this disease. The symptoms vary in different cases, and death does not always occur in it, earlier than in bilious fever. It may have remissions and exacerbations, but these are not of sufficient importance or regularity, to be considered characteristic of the disease.

Yellow fever is, I have no doubt, commonly a disease of strong action and high inflammatory grade. But there are cases, which have given countenance to the typhus character, and stimulating treatment urged by some enlightened physicians. There are unquestionably many cases in which the patient sinks under the first onset, and the physician has no choice but amongst stimulants for remedies.

*Treatment.* Regarding the disease as of high excitement, the treatment in such cases is simple.

*Bloodletting*, if practiced in the first stage, will be a powerful remedy, and is highly recommended.

*Emetics*, or what is preferable, broken doses of tartar emetic and nitre, should follow. This powerful means of lessening the circulation, evacuating the stomach, and keeping within bounds the febrile heat, should be used according to the necessities of the case. In my own case I relied on this remedy, and was very sensible of its beneficial influence, but, probably used it two sparingly.

*Calomel.* This is probably, the most important of all remedies in yellow fever. My own experience of it was most triumphant. Had I used it in the same efficient way, at the first attack, I might have been saved from the last. It is not a mere cathartic in this disease. Its powerful action on the liver is, I have no doubt, the important consideration. Other

cathartic medicines may be added, but the calomel should never be excluded.

*Cold.* The application of cold by means of ice or water, is a well established means of relieving yellow fever. There is little danger of carrying this too far, in the first stage, if the patient is allowed to stop it, when it becomes disagreeable. No remedy is better established, or more approved than this.

There is in this, as well as other fatal disorders, a last stage, in which although there is hope of benefit from remedies, those we have been speaking of are no longer to be allowed. This stage, in some instances, comes on suddenly on the first attack. The pulse becomes feeble, the extremities cold, the mind wanders, and death is impending. Here stimulants will find their place. Sinapisms and warm dry applications, spirit, ether and camphor, or other remedies, are to be used according to circumstances. But by far the best remedy is—

*Opium.* This remedy is to be given in sufficient doses. It may be given in combination with the stimulants mentioned, or with colomel, where it is not too late for the administration of that remedy. From three to six grains in twenty-four hours, will often be but a reasonable prescription.

Quinine has not proved so valuable a remedy in this, as in bilious fever. I should have less faith in it, than in the pure stimulants which have been mentioned. This is the testimony of those most entitled to speak from experience on this subject. But I think the milder cases, will furnish a proper field for further experiment with this invaluable remedy. I should not fail to put it to the test, whenever a slight remission presented itself.

Nutritious food should be allowed, as soon as the fever subsides, and the appetite will receive it. It is easy to err on the side of taking too little in this case.

There is, I should think, but little danger of erring very widely, in the treatment of medium cases of yellow fever. It is a disease of high excitement, with full pulse, great heat, and pain, and will call for depleting and cooling remedies. These remedies, with a special reference to mercurial cathartics, make up the treatment. They should be used freely, and not laid aside too soon. Where the symptoms are those of high inflammatory fever, the treatment may be urged with fair hopes of success.

*Black vomit*, the characteristic symptom of this complaint, is seldom recovered from. When it occurs early in the dis-



ease there is less hope. A gentleman who had remained in Savannah, during the prevalence of this disease in 1820, sat down to write a letter to his friends. He began by congratulating himself, that he had been spared till the season had nearly stayed the pestilence—a sudden sickness came over him—he threw up a quantity of the matter of black vomit—he was a corpse in a few hours. Thus insiduously does this fatal symptom arise. It occurs in cases where it is least expected, and is often the first symptom of the disease. No one pretends to have discovered a remedy for it.

#### RECAPITULATION OF REMEDIES.

1. *Stimulants.* Where the patient is prostrated suddenly on the first attack, or sinks to a dangerous state of debility after several days, stimulants are to be used. The first of these is brandy, or other good spirit. It should be given according to circumstances, from a gill to a pint in a day; giving more where the prostration is great. Opium should also be given, and other stimulants may be added at discretion. Where the skin is cold, and the circulation in the capillary vessels is impeded, so that a purple tinge is more or less visible, let sinapisms, hot applications, and other external stimulants be used.

2. *Bloodletting.* A full bounding pulse, flushed face, pain in the head, or in any vital organ, or all these symptoms together, demand the use of the lancet. Let it be used, but not abused. Draw blood to moderate the symptoms, take a pint, or in the event of pressing danger, a little more. But recollect that there are other remedies to follow, and that these will bring down the circulation, if it is not sufficiently reduced by bloodletting.

3. *Emetics.* Two grains of tartar emetic, every half hour, till it operates as an emetic, is a powerful remedy, and often proper in the high fever which ushers in this disease. Where the fever continues for a day or more, with great heat, give a table spoonful of antimonial mixture hourly, or less frequently, as the case may require. This remedy is to be laid aside when the fever subsides, or its operation has been active.

4. *Calomel.* This is an invaluable remedy in yellow fever. It is slow in its operation, and may therefore be given after bloodletting and emetics have been used. But it is not to be delayed. Give ten grains and repeat the dose every twelve hours, till it produces discharges of bile from the bowels. If there is great prostration, combine opium, but do not omit the

calomel. Thirty grains of calomel and three grains of opium in pills, arrested a vomiting in this disease which would have destroyed me, in a single day. I felt that I was cured in less than one hour.

5. *Cold applications.* The burning heat, which attends yellow fever, calls for cold air and cold water. It is not the shock of a shower bath, but the extensive application of cold water to the surface of the body, which I recommend. Let it be used freely and without fear. It has been fully tested and is approved.

6. *Opium.* This remedy may not be often required in yellow fever. But where the stomach is too much irritated to retain any thing, a strong dose of opium or laudanum will in some instances tranquilize it, in a remarkable manner. Where there is prostration with paleness of the surface, give laudanum. Do not give it when there is great heat and manifest inflammation, especially if the fever is rising; but if the fever is on the decline and the symptoms alarming, do not fail to give opium or laudanum.

7. *Quinine.* This remedy, whether in its crude state in the Peruvian bark, or its elegant form of quinine, as now used, is not much relied on in yellow fever. I think it is too much neglected, and I should not fail to give it whenever a remission of the fever could be obtained. I should also give it in the prostration of violent cases, where the powers of the system seemed to be failing. Let from two to five grains be given hourly, in such cases, till twenty or thirty grains are taken. This is enough for one day in the worst cases. If it is given in milder cases the quantity may be lessened.

---

## BILIOUS REMITTING FEVER.

The frequent occurrence, wide extent, and formidable character of this disease, justify an accurate account of its causes, and treatment. I have said that the varieties of fever which arise from malaria, whether it be a real or imaginary cause, cannot be accurately defined. Yet I have divided the subject, and have no doubt, shall be able to treat of it, more perspicuously and more usefully by so doing. By far the most important of these divisions is *bilious fever*, under which name I propose to treat of all malarious fevers having remissions and exacerbations. This class will include, the autumnal, bilious re-

mittent, pernicious intermittent, congestive, and I know not how many more varieties of fever which have been described by authors.

Intermittent fever is excluded from this class, because of its mild character, and long duration, but there will occur cases which it will not be easy to assign to one of these classes rather than the other. Arising from the same cause, they run insensibly into each other, so that there can be no perfect discrimination.

#### HISTORY OF BILIOUS FEVER IN MILLEDGEVILLE AND ITS NEIGHBORHOOD.

In a state of nature this was a rich, variegated country, covered with majestic forests and tall waving grass. The low lands on the sides of the streams, were covered with heavy cane brakes, or unbroken beds of reeds. Such was Milledgeville and the contiguous country till about the year 1807, when it became the residence of the white man. In this state of primitive grandeur and unequalled beauty, this country was decidedly healthy. I was here soon after the Indian inhabitants had left it. I witnessed its rapid settlement—the destruction of its forests—the extermination of its canebrakes, its reeds and its grass—and the laying bare of its bosom to the sun.

Bilious fever appeared as suddenly, as the face of nature had been changed by the hand of man. For eighteen years it was a formidable epidemic, during the summer and fall seasons. The mortality was greatest where the lands were most fertile. Milledgeville, located on a spot of great fertility, was perhaps the greatest sufferer. No tables of mortality were kept, but I cannot be mistaken in placing the deaths from bilious fever alone, as high as five per cent of its whole population, each year from 1808 to 1812 or 13. This mortality happening in a few months, gave to the disease the terror of a pestilence. Forty years have now elapsed, and great has been the change in the face of this country. It has been reduced in many places almost to sterility. Its gullied hills and deeply sanded bottoms have become dry. The bilious fever has almost ceased its annual visit. The annual deaths in Milledgeville from this cause, which I have said were at one time as many as five in the hundred of its population, have gradually diminished,—so that within the last five years they have not exceeded one in two thousand. The

facts which have attended this great change cannot be uninteresting.

#### CAUSES.

If there were no summer, there would be no bilious fever. But to what degree the thermometer shall rise, or how long continue, at any degree of heat to produce this disease, is not ascertained. The process is, I think, not sudden. I have seen in the month of June, the river overflow its banks and subside under the greatest heat of summer. No fever appeared for five or six weeks, but its onset was then sudden and violent, and it only subsided on the coming of frost. No example is given of the appearance of this disease in winter, except in persons who had contracted it beforehand; nor is it agreed, what length of time the infection may remain in the system.

So far as it regards climate, it appears that summer heat, and moisture must combine to produce bilious fever—before absolute dryness or thorough wet, it equally disappears. I have seen bilious fever appear in July, disappear in the driest and hottest weather of August, and re-appear on the coming of rainy weather in the next months. These observations are not new. In the East, it has been remarked that the overflowing of the Delta of the Ganges and Indus, is the signal of returning health to their inhabitants.

#### MALARIA.

An Italian physician has the credit of having suggested as the cause of bilious fever, an effluvium or emanation from decaying vegetable matter in marshes. Chemistry has never detected this malaria, and many are disposed to doubt its existence. The circumstances connecting the existence of bilious fever with the state of adjacent lands or marshes have been investigated with great care, and the belief that the cause of the disease is to be found in the state of these places, is general. I am free to confess, that the facts I have witnessed go far in my mind, to corroborate this doctrine. At the same time I desire to say, that I see no proof that the production of this malaria, or miasm is a mere chemical process. We know enough to satisfy us, that there are in nature, besides gravity, other powerful agents which totally elude our research. The cause of small pox, which emanates from a diseased person, and, at some distance, produces the same disease in one which



was well, has defied chemical detection as much as the malaria of marshes. Whether it is a fluid or aeriform matter, or an influence extending itself on principles yet unsuspected, is entirely unknown.

What I wish to enforce is, that so far as the cause of bilious fever is concerned, we know enough of it, to protect ourselves from its power in almost any country; and that he who can place this knowledge in the custody of those to whom it will be most useful, will render an important service to mankind. To aid however slightly, in this great object, I shall without much comment, mention the principal facts I have witnessed, which carry in their mere statement, important information.

*Locality.* The people of the south almost universally believe, that bilious fever arises from the influence of humid places. Mill ponds are universally regarded as nuisances, and many have been legally abated, on the ground of their causing fever. The valleys of rivers, and smaller streams, lie under the same distrust. Ponds of water, especially lime sinks, are perhaps the most distrusted. A vast experience and enormous loss of life, have given strength to these opinions. They are in the main, well founded. But there are many places which seem to be harmless, in spite of the existence of these causes, and it is of some importance to know why it is so—why one pond should produce disease and another not. A pond whose water is always of the same elevation and covers the same ground, will not produce fever. One surrounded by alluvial sands, and having for its bottom a white or light blue clay, though its soil for a foot or more be of half decayed aquatic plants, may dry up in the heat of summer and yet produce no fever. I have witnessed many examples of this; in the country stretching across a few miles below the falls of our rivers, where the long leaved pine covers the surrounding country. In this same region, mill ponds are equally innocent. If their streams are short and do not arise in the granite hills, and they are not too near the river, they may rise or fall, be full or empty, and the surrounding inhabitants will be unaffected. The sides of these streams running through this country, present in rare instances a mild remittent.

Milledgeville and its neighborhood, which form the scene of my observations, afford the greatest variety of soil and situation. The town lies on a primitive foundation, with soil of rich clay loam, subject to wash into deep gullies when the surface is once broken. The country around, and especially

along the streams which enter the river near this place, is hilly and has the same predominant feature of a soil formed on tenacious clay. Lower down, the face of the country suddenly changes. The margin of the ocean was once here, and the rolled gravel, and accumulated sand, form soil for the lofty pine forests which extend to the seaboard. A close observation shows that the change for a few miles is only on the surface, and that on penetrating the earth only a few feet, the rock is still in its original position. It is no longer granite, but changes to gneiss, mica slate, and clay slate, in a few miles. Through such lands the streams are crooked, and the hills abrupt; but no country is better drained, better watered or more healthy. I know many places where the inhabitants have for half a century, lived totally exempt from bilious fever, even in its mildest form.

Far different has been the experience of those who settled the richer lands, founded on clay and presenting a more inviting aspect. The rich loam was no sooner broken, than fever made its appearance. It was more violent along the sides of the streams, and worst where the valleys of those streams were wide, and too wet for the growth of crops without draining. The cane which grew thick on these lands, was suddenly destroyed and the soft mud laid bare to the sun. These places were regarded as the chief source of the malaria, which annually produced such alarming effects. But the fevers of those years, did not always seem to depend on contiguous marshes, rivers or mill ponds. The newly broken soil in the clay lands, seemed in some instances, to produce the same effect. The gray sandy lands when remote from marshes, were most healthy, and as I have remarked in some cases entirely exempt from this disease.

The inhabitants of Milledgeville suffered their full share, of the ills of a bad location in a new country. Situated on the Southwest bank of the Oconee River, on a soil very fertile, and formed chiefly of clay, it could not well escape the evils of a sudden settlement and clearing of the land. The sloping banks of the river, the water of which rises nearly thirty feet in the highest freshets, would, when rendered bare of its original rich vegetation, be a great source of the causes of disease of which we have been treating. It is certain that at the time the population of about two thousand, was cutting down the forest, erecting houses, plowing new fields and allowing their cattle and horses to destroy the reeds and grass which were

the natural covering of the land, they suffered the annual invasion of bilious fever in its worst form.

*Districts of country.* From the earliest times, the term *sickly country*, has been applied to places subject to the various forms of bilious fever. Doctor Watson in his summary of the opinions of enlightened travellers of the present day, says that the inhabitants of such countries are represented as being "puny, sallow and sickly; feeble in body and spiritless in mind; having yellow faces, swelled bellies, and wasted limbs; subject to dropsies and fluxes; phlegmatic, melancholy and short lived." This picture is drawn from the most unhealthy regions, but it must be acknowledged, we have many places whose inhabitants exhibit too many of the symptoms described. Every one will acknowledge the importance of avoiding evils so appalling.

Sicily was considered by the Greeks an unhealthy country, and one of their writers adds, that the most sickly parts, were those in which the wells were shallowest. This remark holds true within the compass of my observation, with but few exceptions. The islands of our coast which are composed of sea sand, and have on them only the water which falls in rain, are healthy, though the wells are very shallow. But there are exceptions, to the healthfulness of the islands of our sea coast. Those of South Carolina are considered very unhealthy. The cause of this, has not been well ascertained. I have no doubt that a stratum of marl or clay, will be found, at a greater or less depth, below the surface, of these sickly islands. This is the common cause of the unhealthiness of similar localities.

The formation of peat is hindered in southern latitudes by the extremes of heat and drought. It never occurs in places sometimes overflowed and at other times dry. The presence of peaty earth proves the absence of putrefaction. The great Dismal Swamp, at the south of the Chesapeake Bay, has been often referred to, as the most extensive and healthy region of peat in the south. I know thousands of acres of similar lands located in our sandy pine woods, which have proved equally innocent. But I have witnessed the clearing of some of the lands, around the streams furnishing these *peat mosses*; and the consequent frequent overflow of them by muddy water and sand, and finally a change in the people of the neighborhood from health to sickness.

But we will return to the general fact, that very shallow wells indicate a very sickly country. To this I know no exception, except such as have been mentioned. The sea coast

of the Carolinas and Georgia, give extensive exemplifications. The soil of this whole region is sandy, but is, I believe, universally underlaid by a stratum of alluvial clay, sufficiently compact to hold water. In many places this clay is exposed, furnishing the rice lands of this extensive district.

Leaving the seacoast and penetrating the country thirty or forty miles, the sand hills rise, the wells get deeper, and the people have another and higher grade of health. This region is, in Georgia, fifty miles or more in breadth, and is an exceedingly healthy country. It is unfortunately unproductive, and thinly inhabited, and will so remain, till skill in cultivating this interesting section shall develop its capacity to sustain a dense population.

Ascending the streams, we next meet with that remarkable region, called in Georgia, the *rotten limestone*. From the seacoast of New York, it extends, gradually winding and rising in elevation above the sea, till in Georgia it has become nearly two hundred feet above the tide, increasing in breadth and elevation as it progresses south and west. This whole region, extending to Mexico, is considered unhealthy. Many parts of it have high hills and deep wells, and are healthier than other places in the same region, but there is no warrant for the enjoyment of health and extension of life in such a region.

The composition and structure of this extensive, fertile and sickly region is such, that the streams through it are very level, their valleys subject to overflow, and in many places lime sinks, developing large streams of water under ground, running to some larger neighboring stream. The surface of the country is sandy, and in some places, elevated into hills; but a substratum of clay or marl at various depths from the surface, detains the rain water which flows perpetually from the sides or bottoms of the hills. The water of these springs is offensive to the taste, and in some places, has the smell of stale animal matter. This putrid smell is probably derived from the beds of marine shells, through which this clear water has passed. The whole arrangement and composition of the earth in this region favors dampness, and produces the sickness so generally feared.

Proceeding up the rivers we next come to a range of elevated and well drained pine woods, free from marl, though abounding in porcelain clay. This clay, in greater or less purity, is seen in the banks of streams, the bottoms of ponds or on the tops of hills. It seems to be a transition from the granitic to the rotten limestone region; and is as healthy as any



part of the country. It extends from Augusta to Milledgeville, and onward as far as I have examined, and is from five to ten miles in width. This region is comparatively poor, but under all circumstances more free from bilious fever, than the country above or below it. Mill ponds, or natural ponds, in the elevated plains are harmless, under any degree of damp or drought. This region is thinly inhabited, by a population who live, from generation to generation, without experiencing bilious or intermittent fevers.

We next come to the great primitive formation East of the Alleghanies. It is a granite region, though infinitely diversified in appearance. The country is rolling and well drained, and when cleared and brought into tillage by the planter, very healthy. This country, extending from the tops of the mountains to the last granite falls in the rivers, is the strength and the pride of the South. From Virginia to Georgia it covers about one half of the country east of the mountains, and is probably not excelled, in climate and situation, by any part of the earth. It has no limestone, but clay, and all the elements of granite combined in a thousand ways, ensure a fair amount of fertility. But these elements and their vegetable products, give rise under certain circumstances to bilious fever. Mill ponds, badly drained valleys, oozy and damp hill sides, and probably many ill drained but cultivated fields, prove fruitful sources of disease. In all this region there is great difference in the healthfulness of neighboring places; but it will generally hold good, that places well drained and sufficiently removed from ponds or similar nuisances, will be healthy.

But experience has shown that a residence near our great streams or wide overflowing bottoms, in our primitive region, is unhealthy. In this region mill ponds are fearful nuisances. These causes are worst where the country has been but lately brought into cultivation. They diminish as the country grows older. The overflowing of river lands, and their subsequent drying in hot weather, has been regarded as the most certain cause of bilious fever. I have again and again witnessed fever which I thought arose from this cause. But the rocky bed of a rapid river, being laid bare by extraordinary drought, has been found as capable of producing fever as the muddiest swamp. It is not then in proportion to the quantity of mud.—The slimy rocks of dried up rivers, have appeared to produce diseases as violent and as fatal, as any produced by swamps of any kind. As a general rule, it may be said, that places are

unhealthy in proportion to their contiguity to extensive deposits from streams which become dry in the heat of summer.

2. *Elevation—Distance.* Admitting that the sloping banks and fertile bottoms of streams, and the margins of ponds, are in summer, productive of the cause of bilious fever, it becomes an important question, in choosing a residence, to know the safest locality. I have pointed out the circumstances productive of fever, and those free from the danger, and it is now my purpose to say something of the distance, and elevation which may be relied on as a protection. Three miles has been assumed as the nearest safe distance from a spot producing malaria. My own experience places the line of safety far within this limit, but having seen the range of bilious fever near the same river, vary in different years in proportion to the severity of the disease of the season, I conclude that the danger is more extended, when the product of the cause is greater or more powerful. I have compared it with the emanations of putrid effluvia from decaying animal substances—they become weaker in proportion to distance. I have never seen bilious fever, as much as two miles from the place which I considered as originating its cause, and I believe there are few places which ever produce it at so great a distance as a mile and a half. It has been said that the cause of this disease, moves with the wind, and continues near the surface of the earth—that an upper story is safer than a lower story of the same house. This does not correspond with my observations. The room or building nearest the nuisance, will probably be first attacked; but I have never seen the residents of an upper story, less affected than those who resided or slept below. Nor can I confirm the opinion of some men of high standing, that this miasm cannot cross a pond or river. The Oconee river, in the alluvial country below Milledgeville, runs in several places at the base of high bluffs, extending back to a great distance in a well drained and healthy country. These bluffs are considered a more dangerous residence, than the rich bottoms on the opposite side, where the only apparent cause of the miasm is to be found.

To what elevation the cause of fever may rise, is a question yet unsettled; and I have witnessed no facts directly bearing on this point. Between creeks or rivers, there must be a point of greatest elevation; and this point is apt to be at a medium distance between them. This elevation above the river, within a few miles of this place, is from one to four hundred feet.—On each side of Fishing Creek, which empties into the Oconee

immediately below Milledgeville, there arise hills of this height, overlooking its valley from each side. I have many times, in a tour of professional labor, made a circuit of twenty miles up on one side, and down on the other of this stream. It was at several points easy to behold the valley, from one to three miles from hill to hill, spread out like a map for several miles. On the tops of the hills, on which there run public high ways, there was not, nor ever has originated, a bilious or intermittent fever. No wind from the valley, although so near, has ever spread the pestilence so far. It has been interesting to notice the exactness of the limit which seemed to be assigned the disease. I have several times noticed two settlements, one hundred yards apart—the most distant would escape altogether, while that which was only one hundred yards nearer, suffered the disease in almost every member of the family.

It has been said, that villages are more subject to the visit of agues, than cities—I will add that a single residence in the country, is more subject than either. If the decomposition of vegetable matter, by warmth and moisture, especially in combination with a clay soil, is the cause, these facts will appear as matter of course. The suburbs only of a great city can be much exposed, and a village can have but little protection—every house is near the suburbs on one side or the other.

I have said that intervening water affords no protection against malaria; and I think that intervening houses are equally insufficient to arrest its progress. Intervening hills are entitled to more confidence. It has long been observed in the United States, that the summit of the nearest hill to a river valley, is the most sickly residence which can be chosen. Any part of the valley has been justly thought more healthy. In 1813—14, I attended a family located on one of these picturesque hill tops, elevated perhaps one hundred feet above, and distant about half a mile from the river. The family, with scarcely an exception, had every year a violent attack of bilious fever, and two or three died from it. I advised a removal over the hill; but the gentleman, whose possessions did not extend far, could only accomplish it by moving lower down where the hill was narrower. He in this way secured a hill between him and the river valley, but gained little in distance, and was on a place at least fifty feet lower than that he had left. His new residence proved entirely exempt from bilious fever, and is still inhabited and healthy.

Mist, or fog, has been thought to cause, or to serve as a means of transporting the cause of fever. I believe this idea is ex-

ploded amongst those whose opinions would entitle them to much respect. But the fog, which can be seen, gives the most perfect development of the places in a valley which will be most subject to this disease. When it rises from a river in a calm morning, it may be seen to spread equally over the valley, arising in an equal cloud to the tops of the hills. The slightest movement of the air will drive it all over the hill, but it will not pass over in its thickness, but like smoke, pass in a thin stream over the hill. Admitting that this fog fills the air containing the malaria, is it not obvious that the brow of the hill is the part most exposed to its influence? For at this point it all passes near the earth's surface, and in my opinion affords a good exemplification of the reason, the hill top is the most unhealthy location.

3. *Heat and cold, wet and dry.* Heat and moisture are essential ingredients in the cause of fever. It has been said that bilious or intermittent fever, will never occur unless the thermometer, in the shade, will show sixty-five degrees of heat, in the day time. My observations on this head, are not experimental. I feel authorised to say, that I have never seen the disease occur, unless the heat had previously been at least ten degrees above sixty-five; and that with the heat, and all other causes favoring its production, a considerable time is necessary to produce it. In years which produce the most violent disease, I have observed the mildest cases earlier in the season. When every year produced a fatal epidemic fever in Milledgeville, the middle of June commonly presented numerous cases; since 1826, the date of their first appearance has gradually receded, till they are hardly seen before the month of August. The heat of our summers is always sufficient to produce the disease, when other causes concur.

Moisture seems to be the true point at which the process, whatever it is, goes on. Inundations and drenching rains suspend or destroy it. This I have witnessed, in so many instances, and under such various circumstances, that I think there can be scarcely a doubt of its truth. When in July, 1810, the month of June presented many cases of fever, drenching rains and a freshet in the river, suspended them for a month or more; but the dry season which followed, was attended with many fatal cases. It was remarkable that year that the disease, when it re-appeared, seemed to come suddenly, and in its greatest violence. A family of some forty persons, black and white, resided near the river, five miles below Milledgeville. The Indian corn, at the freshet about the



middle of June, was in bloom; and when the water subsided, fell down and decayed with great stench. A second planting was made, and during its tillage, and till it was in silk and tassel, the laborers and the family were in good health. In September, two or three of this family were attacked. On the morning of the third day, these cases appeared alarming, and a messenger was dispatched for medical aid. The messenger was struck down on the road, and a second was dispatched, who past the first, but did not reach his journey's end, till he also was compelled to descend from his horse, and rest under the friendly shade of a tree. A traveller passing the road, saw the two messengers, and brought the intelligence to me. I immediately went to this scene of distress. There were only three persons out of the whole of this family, able to render any aid to the sick. I considered myself fortunate, that from vigorous measures in removing the whole of these people to a healthy location, and procuring for them such aid as they absolutely required, I was able to say only two died of their diseases.

I have seen it stated, that the extreme of drought, was as apt to produce this disease, as any thing else. This never occurs, except in the immediate neighborhood of ponds, or rivers, or other places, which are at other times covered or saturated with water. While the violent endemic, a few years past, was desolating the city of Augusta, an eccentric man was sowing turnips in the bed of the river, on land on which the sun had never before shone within the memory of man. The English army when in Spain, pitched their tents near some pools of water, in the bed of a river which was nearly dried up.— They found in the malaria, a more dreadful enemy than the French. In every instance in which I have investigated this subject, I have found cause to believe, that a state of moisture, and not of wetness or dryness, was necessary to give rise to bilious fever. The effect is greatest, when all circumstances conspire to favor the most rapid putrefaction. But I am not prepared to say, that putrefaction is the cause. I have never seen the disease arise from the decay of animal matter, however offensive.

4. *Decaying substances.* Animal substances or animalised matters, such as are found in privies, stables, and yards, have never, within my observation, produced bilious fever. The scavenger may remove from cities, the cause of dysentery, cholera morbus, and possibly typhus fever; but he is comparatively useless, in removing the cause of bilious fever.—

Let the suspected place be dried or submerged in water, and what human art can do is accomplished.

It does not now occur to me, that I have ever seen it stated, that the putrefaction of the flesh of animals has produced bilious fever, in any of its forms or varieties. I have stated that the decay of the litter of stables, or other similar matter is equally harmless. The testimony is different in regard to vegetable matters. Grains, fruits, vegetables, and roots, gathered for consumption, but suffered to decay, have in thousands of instances been thought to produce this fever. The danger is greatest when the decay is most rapid. I once met an alarming fever, on a place which I supposed from its location, would be exempt from the malady. On making search, I found near by, four or five bushels of potatoes in the last stage of putrefaction. In 1840, I was in the city of New York, in the month of August. Passing near one of the slips on the East river, I observed in the transparent water, a large quantity of potatoes, not less than one hundred bushels. They had undoubtedly become too unsound for sale, and been thrown overboard, in such a situation as to be exposed to the air and the sun at low tide. When I saw them, they were covered in water, but the escape of gas from them, equalled the most active fermentation. Apprehending ill from this state of things, I continued to notice the newspapers, and soon after observed that a fever had broken out near the spot I have been describing. In the year 1819, I was in the city of Baltimore in the month of July. Passing near Fell's point, I observed a new wharf erected, which was being filled up with shavings and mud, raised by a machine from the bottom of the basin near the wharf. This compost was raised several feet above the tide. A fatal bilious, or as it was called in the newspapers, yellow fever, soon arose near this spot, and spread consternation through the city.

But it is comparatively seldom, that bilious fever can be traced to causes thus obvious. The decay of vegetables, grains, seeds, or fruits, gathered by men, seldom cause bilious fever. Trees also decay and fall in any number; and when other causes do not concur, no fever will arise. When large trees are cut around near the root, and die after having put forth their leaves, the sap sometimes descends, forming a kind of jelly, which decays with great stench. I have once remained during the summer months, very near hundreds of pines in this state. Not the slightest sickness occurred to myself, or any one of the numerous family, equally exposed.

5. *Is putrefaction the cause of fever?* I have said that fever does not arise as soon as putrefaction commences, but after a considerable time has elapsed. I have never been able to detect the cause of fever, by the presence of any unpleasant smell in the atmosphere. The gases, discharged by putrefaction, have long disappeared before fever occurs. Nothing could excel the calm, serene beauty of the heavens, and the refreshing cool and sweet atmosphere, which I have often breathed in Milledgeville, in the month of October, when the watch light in every house, and the anxious face of almost every one I met, announced the presence of an awful pestilence. The senses give no intimation of the presence of this fatal pest. A friend of mine who resided in Savannah in 1820, when fever was a pestilence there, has made to me the same remark. When the cool nights of autumn came on, the citizens who had remained during the season, began to suffer less, and the cause of disease seemed to be giving way; but woe to him, who from healthier places, ventured to expose himself to this deceitful scourge, at such a time. A single night, in a place thus circumstanced, has been fatal to many. There is no safety, till the thermometer has been below the freezing point. Frost must have killed the vegetation and blackened the land. How long this undiscovered substance, *the cause of fever*, may remain in the place it has originated, under a state of the atmosphere too cool to produce it, cannot be told. It disappears suddenly before frost, and with equal suddenness, leaves a land overflowed with water. But if the atmosphere becomes cool, but without frost, there is reason to believe that many weeks will elapse before there will be safety for the visitor of these infected places.

6. *Water.* I think there is no where, a civilized people, who drink so little, besides the water of their wells and springs, as the citizens of the Southern States. With our ancestors, the excitement of wine and distilled liquors, was a fashion; and while it heightened the zest of their social intercourse, it produced ills not to be contemplated without dismay. This fashion has now become a matter of history—it has passed away. It has given way to a climate unsuited to intemperance, and cannot be again revived. This I am sensible will be disbelieved by many who think that the reform in regard to temperance, has been brought about by moral causes. These it is true, are the noblest foundations of temperance, but our case would be bad, if these alone could save us from this degrading vice.

I love the Southern Atlantic States. I look upon them as the chosen seat, of the highest physical and mental developments of man. I therefore have seen, with unspeakable satisfaction, the steady progress of the cause of temperance, for the last thirty years. The people of this region are physically incapable of using ardent spirits, as a beverage. Nor are they much more capable of using fermented liquors of any kind. If the fountains of their hills flowed with porter and wine, a few persons might become sots; but neither wine nor porter, would become the common beverage of the country. Intoxication is, with many of these people, a fearful temporary insanity. They can no more sink down in quiet stupefaction, from strong drink, like the Russian, than they can eat ten pounds of whale blubber at a meal, like the Greenlander. The Southern men who become occasionally intoxicated, commit more acts of outrage and violence, than a thousand times their number of sober men. The number who give way to this vice is small; but the crimes they commit are so fearful and frequent, that persons at a distance regard the country as a scene of anarchy and bloodshed. Rejoicing that these scenes are becoming less frequent, and having full confidence that persons born and raised in this climate, have irresistible tendencies towards temperance in drink, I return to the consideration of the effect of the water drank by these people, on their health.

Water which falls in rain on the earth, is in a tolerable state of purity; but by the time it finds its way into springs and wells, it becomes more or less mineralized. In the primitive region, which lies above the great falls of the rivers at Columbus, Milledgeville, and Augusta, the water is sufficiently pure for drink. That which is most disagreeable to the taste may still be drank with safety. But as we get into the *rotten limestone*, the scene changes. The first pine hills, resting on mica slate and other primitive rocks, yield water in the highest degree pure and salubrious. Immediately below, the water is to be regarded with distrust. That which is found in wells, being in fact, rain water, which has passed through an alluvium of clay and sand, is not unwholesome. But the springs from deeper veins, are less to be depended on. Many of these, arising in whitish clay, yield water of a whitish or milky appearance. In other cases the water is perfectly transparent, and as the lime stone region sets in, the water becomes decidedly clear. The extensive region to which I now have reference, stretches across the country, from ten to fifty miles below Milledgeville. Many parts of it are free from bilious fever, and in



some, the health of the inhabitants seems to be good. But I can hardly be deceived, in the opinion, that they are far more subject to diseases of the liver, spleen and intestines, than those persons, who reside higher up the country. This difference, I attribute to the water they drink. This conclusion has not been hastily adopted. I have often visited this region, and have met the pale face, the tumid spleen, torpid liver, and disordered bowels, as far and wide as the springs and wells afforded the evidences of bad water I have referred to. Not so of bilious fever. This does not extend far beyond the valley or hills, combining the circumstances above described.

#### FORMER MODE OF TREATMENT.

A great improvement has taken place in the mode of treating bilious fever. I propose to give some account of this improvement, so far as I have witnessed it. When bilious fever first appeared in Milledgeville, the writings of Doctor Rush were considered the highest authority on this subject. His remedies were familiarly known to every physician, and to a greater or less extent, adopted by every one. These remedies were principally bloodletting, and cathartics of calomel and jalap. In addition to these, some were in the habit of using James' powder, tartar emetic, and various compounds, thought to be sudorific, and febrifuge. Doctor Rush had denounced laudanum and Peruvian bark, and thus almost deprived the sick, of two invaluable remedies in this disease. But the influence of a powerful name was soon overcome, and better means of treatment resorted to. Opium and bark were called back into service; but, at first, used with too little discrimination. An English physician who had practiced medicine in the West Indies, introduced into Jefferson county, the practice of inducing a speedy salivation, by giving small doses of calomel, and rubbing the surface with strong mercurial ointment. This practice, with extensive blistering, was adopted in Milledgeville. A speedy salivation was soon regarded as the great remedy. I can never forget the blue integuments of those I painted with a painter's brush, dipped in mercurial ointment. My preceptor seemed to delight in the remedy, as much as I disliked the employment of laying it on. Each patient recovered in a state of salivation; and those who died were thought to have perished, because they could not be brought under this potent remedy. Such was the treatment of bilious fever in Milledgeville, till about the year 1813. The indiscriminate use of mercury to produce

salivation was now *reformed*. Gradually, each case became a special study. Doctor Rush's great maxim of prescribing for the symptoms, and not for the name of a disease, was restored to its place. He had sadly violated it himself, in Philadelphia; but we restored it in Milledgeville. We found that "*bark, wine and laudanum*" were not the poisons they had been thought; and the separation of quinine from the bark, has gone far to make our remedies for bilious fever, the most valuable and certain, in our possession. I meet with no disease in which I use remedies with greater confidence. The improvements which we made in the treatment of bilious fever, previous to the year 1829, were pointed out by me, in a lecture, delivered at the request of a medical society in Milledgeville, in the month of December, of that year. This lecture, written out at the request of the society—has not been published, but is now before me. It contains almost all I design saying, in relation to the symptoms, and treatment of bilious fever.

I cannot omit the opportunity of mentioning the names of my able coadjutors in this improvement in the treatment of bilious fever. Doctors Charles Williamson and Samuel Boykin, are entitled to great credit for the skill and energy, with which they aided in this great improvement. My intercourse with them was always agreeable—always instructive.

#### HOW TO AVOID BILIOUS FEVER.

The cause of bilious fever, may in many instances, be avoided, and health and life preserved, by persons who live near it. This cause is met in the open air, on the road, in the field, or in the woods, and even in houses, located too near the place it is produced in. The means of avoiding it, will vary with the circumstances under which individuals are placed. Experience has shown, that those most exposed to the open air at night, are soonest and worst affected. To sleep in the open air when the malaria is present, is the worst sort of exposure. To visit infected places at night, is dangerous; but I have never known a case of fever, brought on by visiting an unhealthy place in the day time, and retiring before night. Great advantage would be derived from entering and closing the house, and remaining thus secluded till the next day. Striking examples of this, are related by authors; but I never found it practicable to induce people to conform to this rule. A single night spent in an infected atmosphere, will produce the disease, in as violent a form as a longer time. Persons in towns, or on

plantations, should recollect, that the cause of this fever arises in the nearest marsh, or some such place. Every foot they can retire from it, is an advantage. The width of a street, I have often found, a matter of consequence. My residence, in Milledgeville, was chosen with the light of experience on this subject. My family, averaging more than a dozen persons, have for twenty years, entirely escaped. Not even the mildest intermittent has happened amongst them. Every year of the time, has presented this disease, of some grade, within a quarter of a mile. One year, it was formidable, in every house south of me; and in the nearest, within forty yards, several violent cases, one of which proved fatal, occurred. The first object, then, is to keep at a proper distance. A mile and a half is probably sufficient. There are few spots in this country, in which a healthy residence, within this distance, may not be found. Very soon after the settlement of Milledgeville, several families found safety in country residences, judiciously chosen, from two to four miles distant. These citizens maintained daily intercourse with the town, when it was most unhealthy; and returned to it in the winter, and there never occurred a single instance of fever, chargeable to the these daily visits. Persons who travel in summer, should bear in mind, the danger of a single night's exposure to unwholesome air. The journey should be so arranged, that night may not overtake the traveller at unhealthy places. The mariner has within his reach the same means of escape. He may go on shore in the day time, in safety, and in equal security, traverse every sea and visit every clime; but woe to him, if the temptations of sea-port towns, or sickly shores, allure him to remain on land at night. Thousands have perished from this cause. This danger has been pointed out by medical men, and is now generally understood. A rigid rule of staying on board, and at night, and keeping at a safe distance from land, is the means of preserving the health and the lives of thousands every year.

#### DESCRIPTION AND TREATMENT OF BILIOUS FEVER.

*Mild form.* The reader will recollect that I am here treating of bilious fever, as distinguished from common ague and fever, and yellow fever. The line of distinction will not be very clear; but in a matter so complex I think this division will be useful.

The mild form of bilious fever has a close relation to inter-

mittent, or ague and fever. Both are ushered in with chills, and each has a recurrence of these chills at regular times; but the intermittent goes off entirely, leaving the patient, between the paroxysms, in apparent health; while the bilious fever goes off less perfectly, leaving the subject of it with some degree of fever, till the next chill comes on. The symptoms of various cases differ so widely, and yet run into each other, so imperceptibly, that I have thought it best to describe the numerous varieties, and point out their particular remedies, separately. This, although tedious, will I think be most perspicuous.

Bilious fever is a disease of paroxysms and remissions; that is, it is according to its grade, violent at one time; but, in less than a day, declines again to a much lower state. This fact is to be held in strict remembrance; for there is not, so far as I know, a single symptom besides, which is found in every case. There is one more circumstance equally uniform. It is a disease of summer and autumn, never occurring in winter, or early spring. A fever therefore without remissions, or *except in relapses*, occurring in winter or spring, may be safely pronounced not to be of the malarious or bilious kind. Authors agree that the disease is commonly preceded by languor, heaviness, want of appetite, giddiness, headache and other symptoms of disorder. My own observation does not fully corroborate this. When a family is exposed to the cause of bilious fever, the most healthy is fully as apt to be the first, and perhaps the worst sufferer, as any other. No preceding symptoms point out the individual, who is to be attacked—his spirits will not flag, or his appetite fail; and a hearty meal is many times taken immediately before the attack. This has been my own experience, and I have witnessed the same, in hundreds of other cases. Yet, in this changeable disorder, there will be found many who seem to be attacked in a mild way, with light premonitory disorder.

The type of the milder forms of bilious fever, is what authors have called a double tertian—a fever with a high paroxysm on one day, and a lighter one on the next—the two days constituting in fact one full term of the disease.

The attack comes on with chilliness and prostration of strength, which causes the patient to seek for rest. It usually occurs in the evening, does not last long, and is followed by a low fever, which continues till late at night. The fever is attended with headache, and pain in the back and limbs, but with so little restlessness as to excite little attention. The patient rises in the morning considering himself well. His head how-



ever feels confused, and his tongue is foul and stiff. On examination of this organ, it appears covered with an adhering whitish coat, which cannot be removed by the brush. It appears tumid, and I have seen it so enlarged, in a day or two, as to fill the mouth, and show around its edges impressions from the teeth. In the mildest form of bilious fever, there is little change in the appearance of the tongue, during its whole course.

The second day is passed with very little change, till evening or perhaps night. A fever, probably without any chill, now comes on. This fever, which is, in my opinion, the beginning of the second paroxysm, which is to put on such violence the next day, is very different from that of the preceding evening. The anxiety and restlessness which occur on this second night are marked—the patient complains of thirst, but drinks little, is in some distress, but often unable to assign a reason, or point to a pain. Towards day these symptoms subside, and he seems better, and thus terminates the second day.

The third day has now arrived. Recollect that it is not yet forty-eight hours since the attack of the disease; but writers concur in calling this the third day, and so carrying out the calculation as to call this a third day fever, though it runs through its full term once in two days. I shall not attempt to correct this error, but go on with my account of the third day.

A chill in the forenoon ushers in the paroxysm of this day. A sharp attack of fever follows, and now, perhaps for the first time the patient considers himself really sick. Very frequently this will be regarded as the first attack of the disease. The symptoms will now put on as great violence, as at any future time. The chill will be brief, and a violent fever follow. Great is the variety of the symptoms in various cases. Nausea and vomiting may be expected in the chill. Sometimes they continue through the paroxysm, but frequently not. Violent pains in the head, back and loins, and sometimes in the limbs occur, with considerable thirst. The pulse is full and strong, but not very rapid, and the skin is very hot. The complexion is sometimes florid, and the skin bathed in perspiration, during the hottest part of the fever. In other cases, the lips are pale with dry skin, and still greater and more oppressive heat. This paroxysm usually lasts from ten o'clock in the forenoon, till about the same hour at night, being longer or shorter, as the disease is worse or milder. It terminates with copious perspiration, but calm and quiet, the patient rest-

ing as from the greatest fatigue. Thus terminates the second paroxysm, on the third day of the disease, about two days and six hours from the first attack.

The fourth day is passed with the same symptoms as the second—a light fever with no leading symptoms. Evening ushers in the next paroxysm. The attack is without chill, and the fever is slight, with cool extremities and heat about the abdomen and breast. Gradually the pulse becomes hurried, but not strong—the face is pale—the breathing deep—sometimes with sighing—delirium may make its appearance, but this is rare. The restlessness increases to a fearful extent, and this is a night of indescribable misery, though unattended with acute pain. I have had two severe attacks of this disease, and can never forget the misery of these nights of low fever. They occur on the nights of the fourth, sixth, and other alternate days. The fourth night presents these symptoms in their strongest form. The paroxysm of the next day seems to depend on the agony of this night—it will be worse in proportion to these symptoms.

The fifth day has now arrived. The disease has now acquired its full force, and death may happen in the course of the night. But the case we are considering is commonly borne through successfully. The symptoms of the fifth day, if the disease has received no check from remedies, are the same with those of the third. The chill is less, and the fever is higher, and continues longer. The strength of the patient gives way, and he has more delirium. As the fever subsides, a great paleness of the face is observed. The features do not shrink as in typhus, but remain full and plump even to death, should it occur. Throughout the paroxysm the patient seems to be put to the severest trial, and as the fever subsides, he seems to be relieved as if from the greatest effort—he runs into a profuse perspiration, and sinks into sleep as if fatigued to the last degree. If the case is mild, and it is such we are now considering, the sleep of the patient is refreshing, and on the morning of the sixth day, all the symptoms are improved, and there is only a slight appearance of fever yet remaining.

The sixth day may be compared to the fourth. If no fatal injury has happened on the fifth, the case will go on with little change worthy of remark. The low paroxysm at night, will not fail to produce its accustomed effect; and if the disease is not checked by treatment, the night will probably be worse than any which has preceded it.

The seventh day is the grand climax of this grade of fever.

The symptoms of the fifth day will again present themselves, and the strength of the patient will be less. If there is danger, look out for it now. If nature is overtaxed, she will now be ready to sink under the burthen. Profuse perspiration, with copious discharges by the bowels, or by vomiting, may prostrate the patient beyond recovery. The heat of the body will remain, but the forehead will be cold and moist—the extremities pale or livid. Hiccup and laborious respiration denote approaching dissolution. The mind, in this solemn hour, is wonderfully tranquil, frequently retaining its powers, till the pulse can no longer be felt at the wrist. In other cases it gives way, the ideas become incoherent, and a muttering delirium or boistrous screams, increase the horrors of the scene. But the seventh day does not always terminate the case, and the paroxysm terminates without running into the extremity we have been contemplating. Frequently the profuse perspiration, and cooling down of the fever, are its regular termination, and the patient is restored to health. More frequently the fever but subsides, to make another assault on the ninth day.

The eighth day is one of comparative tranquility. The exhausted patient seems not to have rested sufficiently on the night of the seventh, and slumbers through the forenoon of the eighth. The evening presents the expected rise of the fever, and the night its accustomed distress. Sometimes this night is especially memorable, producing all the distress we have described in the most aggravated form.

The ninth day is also a great crisis. If the case has not terminated on the fifth or the seventh, the symptoms of the ninth may be expected to be similar to those of the seventh day; but commonly they will be in a mitigated form. If proper remedies have been used, a crisis on the ninth day will be almost uniformly a restoration to health. But if the disease is allowed to take its own course, the ninth day will be a day of peril. It was so regarded by the ancients, who knew no remedies of much value, or lacked the skill to use them properly, in this disease.

The tenth day is a day of light fever, if indeed the case has lasted so long. Great exhaustion is of course present, and a dozy listlessness is felt in the forenoon. The night of this day may have its horrors still, and the next day its dangers too. This ought not to occur. It will not occur where the treatment is skilful. Before the discovery of quinine, this late appearance of danger was common. With this invaluable remedy in our hands, a bilious fever of the regular kind, I have described, will not continue eleven days.

The eleventh day is a day of paroxysm, and may be one of danger. No new symptoms will be likely to occur, and the case may be expected to terminate favorably on the night of this day.

Should the fever continue longer than the eleventh day, its periods cannot be reckoned on with any certainty. Sometimes it now becomes a regular intermittent; but more frequently it runs an irregular course to the end. The fourteenth, seventeenth and twentieth days, have been regarded as critical, or days of its probable termination. I have not been able to perceive the truth of this statement. It may be true in cases allowed to run on without the control of remedies.

Such are the symptoms and progress of the most common form of bilious fever, as I have met with it for the last thirty years. Such cases will commonly terminate favorably under almost any system of treatment. But I have not attempted to enumerate all the symptoms which may present themselves, even in mild cases. The task would be as difficult as it would be useless. I think I have said enough to make it easy to recognize the disease. I shall attempt to describe such other forms as I think require a peculiar treatment, and leave it to the judgement of the practitioner, to vary his remedies to suit particular cases.

#### TREATMENT OF MILD CASES OF BILIOUS FEVER.

I have stated that the milder forms of this disease will terminate favorably, under almost any mode of treatment. I am far, however, from thinking that modes of treatment are indifferent. A recovery under a feeble or pernicious treatment, differs widely from one effected by proper remedies. The one is but an escape from death—the other a restoration to health.

We have two great remedies for bilious fever—mercury—especially calomel, and peruvian bark, or rather quinine obtained from it. These remedies have in my opinion curative powers, especially suited to this disease. No one should pretend to treat a single case without them. But we have other important remedies, which I shall endeavor to assign to their proper places.

*First day.* It is seldom that a remedy is sought by patients on the first day of fever. In this case in particular, the attack is commonly late in the day, and the symptoms slight; and it would seldom be practicable at this period to tell the



nature of the disease. Yet a mild attack of fever in the evening, at a time and place rendering it probable that it is a bilious fever, should be promptly met with a dose of calomel. A medium dose, ten grains in this climate, may be given in pills or a little syrup. Should it fail to operate by morning, a seidlitz powder may be taken.

*Second day.* This is a day of uncertainty, for no one can tell that to-morrow will bring on a regular attack of fever. But governed by the same rule of prudence, the case may be treated as bilious fever. If there is a considerable remission, and it can hardly fail in mild bilious fever, quinine should be administered. Ten grains given in four doses, one hourly from seven to ten o'clock in the forenoon. If the fever has not increased considerably, give ten grains of Dover's powder or thirty drops of laudanum with the last dose. This concludes the treatment of the second day.

*Third day.* A chill in the forenoon, followed by high fever, is the common course of the disease on the third day. In the practice, this is indeed almost always the first day a prescription is given. The disease now puts on its serious aspect. The chill stage is very short, and I do not advise any remedy in it. The patient should avoid excess in drinking, as water thus taken is speedily rejected, and I think I have seen cases very much aggravated by this indulgence. Excessive covering is useless, and I think warm applications equally so. Yet I would not object to warm brick, or warm clothing, while the sensations of the patient seemed to demand them.

The rise of the fever should be met with a prompt remedy. If the pulse is high or the heat considerable, or if from great sickness at the stomach, the pulse is rapid and contracted, and there is no great discharge from the stomach when the patient throws up, the use of antimonial medicines will be proper. Take of tartar emetic two grains, nitrate of potash two drachms. and dissolve them in half a pint of water. Give a table spoonful every half hour, till it proves emetic. If from debility of the patient, or a knowledge of excessive susceptibility to the action of this or other remedies, it is deemed imprudent to press this, the dose may be lessened and the time extended according to the circumstances of the case. In cases of great debility or early childhood, I have substituted ipecac for the tartar emetic. Take two drachms of nitre and thirty grains of ipecac—mix them in half a pint of cold water, and give a table spoonful every fifteen minutes, till it proves emetic. This is greatly inferior to the the above, and only to be used

where a milder action is deemed prudent. These remedies are to be given in proportion to the violence of the symptoms. If the emetic operates promptly, and the fever continues without abatement, doses of the mixture may be given once in an hour or two, till the fever subsides. The sickness at the stomach induced by this course, tends powerfully to lessen the fever; indeed the antimonial mixture surpasses all other remedies for this purpose, and should be given with constant attention to the heat of the body and violence of the circulation. Used in this manner, these remedies become cathartic, and as soon as they operate in this way, they are to be laid aside for the day. If two or three copious discharges from the bowels are thus brought on, forty to sixty drops of laudanum may be given, and if necessary to stop these operations, the laudanum may in smaller doses be repeated from time to time. Tartar emetic and nitre, is our great means of lessening the violence of this fever. A great majority of cases admit of its use, and I have experienced the great relief it affords, in allaying thirst, relieving pain, removing restlessness and promoting perspiration. It is only when it operates as a cathartic that it cannot be profitably continued.

Here let me guard the practitioner against excess in the use of the valuable remedy, cathartics. No mistake has been more pernicious than that which has taught us to believe that cathartics were beneficial, as long as bilious discharges were brought on. On the contrary, I think these remedies when used to exhaust the fluids, check perspiration, debilitate the patient and disorder the bowels, are exceedingly pernicious, even in bilious fever. No remedy is more likely to do harm in this way, than tartar emetic given for a great length of time in small doses. This is more particularly so at the approach of winter, and I have in more than one season, found it necessary to abandon the use of tartar emetic entirely, as the cool nights of autumn came on. The danger of using tartar emetic in this way, is fully met by its powerful antagonist, opium or laudanum. Given as directed above, it not only controls effectually tartar emetic, but converts it into a valuable auxiliary to itself, in closing the paroxysm with a generous and profuse perspiration. No remedy I have ever used in medicine, has given me more satisfaction than laudanum, given towards the close of the paroxysms of bilious fever. Given after tartar emetic as above advised, its action is as agreeable as it is beneficial. But its use is not restricted to these cases. The rule is general to give laudanum near the close of a parox-

ysm of bilious fever. Give it in full doses, and let them be larger, where from the great activity of remedies, or exhaustion from protracted suffering, the patient requires a soothing anodyne. If the medicines taken have operated slightly, and the patient is not much exhausted, the laudanum will be unnecessary.

I have but little to add in regard to remedies for the third day of fever. I ought not to omit cold applications, and cold drinks. The obvious effect of these remedies, in lessening the heat of fever, and the great addition they make to the comfort of the patient, commend them to the regard of the practitioner. There are states of the stomach, where from great irritation, water is no sooner swallowed than rejected. This is frequent in the chill stage, but sometimes continues through the paroxysm. This state of the stomach does not occur in the low grade of fever we are now considering, and will be treated of elsewhere. If the heat of the body is considerable, and the patient feels it to be oppressive, let a towel be dipped in cold water, not ice water, and rubbed over the face, arms and legs, till fully wet. Let these parts remain exposed under a brisk current of air, by fanning, and when the parts begin to dry, re-apply the water. This course vigorously pursued, will, in a few minutes, reduce the heat and moderate the circulation in a wonderful degree; it may be pursued under the judgement of the practitioner. The sensations of the patient cannot always be relied on, yet in moderate cases of fever they are seldom wrong. Cold drinks, such as iced water or lemonade, are to be indulged in under proper regulations. They are in general proper, to the extent demanded by the patient; but should the medicines used operate actively, it will be a good reason for suspending cold drinks for a time. Indeed a warm cup of tea may be advantageously taken at such a time.

*Fourth day.* This day ought to bring to a close an ordinary attack of bilious fever; but this cannot happen unless remedies have been vigorously used. The natural course of the disease is a continuance of from nine days, to three weeks. If our treatment has been any way successful, there will be a remission on the fourth day almost amounting to a perfect interval. This remission, be it more or less perfect, is the time to administer quinine. This is the great, and I believe now universally accepted specific, for all the forms of bilious fever. It is now administered with but little regard to circumstances. My own opinion is, that it should by no means be administered in the rising stage of the paroxysms of fever. From ten to

twenty grains of quinine may be given on the fourth day. Begin at ten o'clock in the forenoon, and give from two to four grains hourly, till the amount designed for the day is taken. It may be taken in pills or in solution. If no fever appears by six o'clock, give thirty drops of laudanum. My own practice is, to make ten grains of quinine into six pills, and give one hourly till all are consumed. Any deviation in the manner of administering it will be allowable. This quantity will commonly hinder the accession of fever, which would occur but for its use, on the evening or night of the fourth day. I have, in many instances, given a larger quantity of quinine, and should do so now if I apprehended a dangerous fever on the next day. I have not adopted the very liberal use, lately made of this article. In any manner of using it, a great deal of dizziness and ringing in the ears is caused. None of my patients return to me deaf, or with noise or ringing of the ears which cannot be gotten rid of. It appears to me wrong to use this remedy to such an extent; and nothing but necessity, and a change of my present opinions, will induce me to do it. I do not under any circumstances advise *the use of more than thirty grains of quinine in one day.*

If on the fourth night the patient have restlessness or fever, a second dose of calomel should be given. If the patient is apt to experience much nausea from this remedy, add to it a quarter or a third of a grain of morphine, notwithstanding a dose of laudanum may have been given a few hours before.

*Fifth day.* If the fever of the fourth day, has been prevented, and the night passed in quiet sleep; the morning of the fifth day is bright with confident expectation. If the night has been one of restlessness and fever, the hope will be less. In either event, the quinine is to be repeated in the same quantity as on the day before. Commence six hours before the expected chill, and take the remedy in shorter time so as to finish the day's allowance, two or three hours in anticipation of the chill. With the last dose, if fever has not come on, give a dose of laudanum or Dover's powder. The result is now to be awaited in quietness.

The chill of the fifth day may be expected in the forenoon. It will be slight, and perhaps not perceived in the heat and excitement produced by remedies. The fever will be as high as at any other time, and the symptoms discover danger, if the case is likely to produce it. If the attack seems violent, recollect that the patient yet has strength and may bear active remedies. If he has taken his dose of calomel the previous night,



the tartar emetic and nitre, recommended on the third day, will cause a prompt cathartic action on the bowels. This forms no objection to the use of the emetic mixture, but suggests caution against using it too freely or too long. If the dose of calomel has not been taken, that remedy is now to be given. Remember that this is the fifth day, and that now, if ever, the most active remedies are demanded. If the patient is vigorous, give the following powder. Take of calomel thirty grains, tartar emetic two grains—nitrate of potash sixty grains,—rub together and divide into eight powders. Give one of these powders in syrup every two hours, or half of one at shorter intervals, if the stomach will bear them better. The desire in this case is to produce a cathartic operation, and the time between the doses may be extended, if the stomach seems to reject the remedy. Several operations as an emetic, followed by three or four operations by the bowels, can be borne, by vigorous patients at this stage of the disease. This, I consider very active treatment, and it should be guarded by the use of laudanum if necessary; but at the same time, I regard this combination of remedies the most efficient I have seen tried. The patient who is so managed on the fifth day, will probably not have another paroxysm of much violence; and if he recover, he will be free from enlarged spleen, inflamed liver, and jaundiced complexion. I have seen such recoveries, the most perfect.

The application of cold water, the use of cold drinks, and the administration of a dose of laudanum at the decline of the fever, need not be again suggested—they are to be used as directed for the third day.

*Sixth day.* Every day, is now full of confident expectation, the practitioner constantly expecting the paroxysms to cease. The sixth day is not a day of fear but of hope. The prevention of its low paroxysm at night, will ensure the arrest of the great and dangerous paroxysm of the next day. The morning of the sixth day is therefore to be diligently improved. The sole reliance is on quinine. Begin early in the morning, with doses of two grains hourly, and proceed through the day till from ten to twenty grains are taken. In the evening, give a dose of laudanum or Dover's powder. Nothing further will be required, unless there is a considerable rise of fever at night. In that event, a discretionary use of cold water applied to the surface is all I advise.

*Seventh day.* A minute examination of the symptoms should be made on the morning of the seventh day. If the tongue is

shrunk, and beginning to be sharp at the point; if it is brown at the base and along the centre, and trembles when thrust out of the mouth, a great degree of exhaustion has already taken place. If on the contrary it retains its fullness, looks white, and when attempted to be shown, appears hardly pointed at all, but round and tumid, the patient has borne up well under his affliction, and may bear the contest though it last for days to come. The power and motions of the body and limbs, give evidence of the same fact—if they are steady, there is much remaining strength,—if trembling, the strength is gone. If there are signs of much exhaustion, be careful to use no evacuating remedy. If the patient has any appetite, give some light food early in the morning. A cup of tea with hominy or rice and butter if desired. This indulgence would have been proper in the remissions of fever for two or three days past, but now it becomes necessary.

But the seventh day is a day of paroxysm, and a chill may be expected in the forenoon. Begin with quinine six hours before the expected chill. Give two grains per hour, or more if the symptoms are alarming. Give ten drops of laudanum with each dose, and if the patient seems feeble, give a table spoonful of brandy in water, two or three times in the forenoon.

If the fever comes on, whether preceded by chill or not, do not be too hasty in administering medicines. If the heat is great, apply cold water as before directed. Observe the pulse, and the breathing of the patient. If the application of cold reduces its frequency and force, and renders the breathing easy and deliberate, it will be proper to suspend it for a time, and return to it again, as the symptoms seem to require. If delirium comes on, apply cold to the head. Ice water, or pounded ice in bladders, may be applied over the hairy scalp. Ice is too cold for a safe application to other parts of the body, especially where the patient is delirious and unable to direct its removal in case of necessity. The antimonial or tartarised mixture, recommended in the preceding paroxysms, is now to be omitted, or used in diminished doses. If the fever is high and face flushed, this remedy may be ventured on, but, in general, the paroxysm of the seventh day is to be treated without any evacuating remedy. In some cases the pulse will be strong and the heat of the body very great, and yet the strength so exhausted as to forbid the emetic. In this case, give the following. *Take of nitre one drachm, cream of tartar one ounce, rub well together and divide into eight powders.* Give one of these in water, every hour and a half, till four are taken, if the fever

does not give way sooner. When the fever is perceived to be on the decline, give thirty drops of laudanum, and enlarge the dose, if the case seems alarming.

As the fever declines on the seventh day, a watchful care should be had over the patient. Death is sometimes at the door when least expected. A copious discharge from the bowels might prostrate the strength, and put a period to life in a few minutes. The dose of laudanum already advised, is the best means of preventing this. But should the bowels give way, the laudanum should be repeated, and Cogniac brandy or other good spirit given freely. If the strength still gives way, and the surface grows cold, stimulants which redden the skin, such as mustard, cayenne pepper, or spirit of turpentine have been extensively tried. I have but little faith in them myself, and prefer frequently rubbing off the perspiration, with a dry rough towel, and keeping the skin as dry as possible. If heat is applied, let it be in a dry way, as bottles of hot water, hot bricks, &c. I am now treating of a case of extremity, in which the patient seems to be sinking into the arms of death. Let no one pronounce it hopeless—stand by with the brandy and laudanum, and give them together or separate as the case may require. The brandy is the purest and best of all stimulants, and the laudanum a stimulant of value, but of far more value to relieve irritation and soothe every nervous disturbance. To what extent shall these remedies be carried? This I will not pretend to state precisely. I have stood by patients in this extremity, and given a full quart of brandy in the course of one night, without the least appearance of intoxication, and with the happiest results. I have given laudanum to the extent of twenty drops every half hour for several hours, with the same result. These remedies may be given combined or separate. I once witnessed a case which had been visited by a physician, who directed a tea spoonfull of laudanum, every hour. Expecting the case to terminate fatally in a few hours, he left the direction without limit, and when I saw the patient twelve hours afterwards, he had emptied a two ounce vial of laudanum. He was now in a profound sleep from which it appeared impossible he should ever be aroused. Yet he did awake, and had no more return of fever.

I deem it unnecessary to detail this mode of treatment further. If the disease passes on to the eighth day, it is to be treated as the sixth has been—if to the ninth, the same as the seventh, and should a crisis, fearful as I have described, come on earlier or later, let the stimulants be administered as I have

directed. I have said nothing of bile or the remedies relied on to expel it from the system. In the cases I have been treating, the practice is not influenced, by the appearance or non-appearance of bile. The same remark may be made of blood-letting. I do not advise it, except in extreme cases.

I have detailed the remedies I use, and the exact times at which I use them, with a precision no where else to be found. The experienced practitioner may object, that the variety of cases is too great, and their periods too various, for the application of such rules. I advise a little hesitation before such a decision is pronounced. I describe the disease as I have witnessed it, and have compared its phenomena from year to year. A vast majority of the cases I have witnessed, fall readily into the account I have given. The occurrence of symptoms I have not mentioned, should produce no embarrassment, while the general course of the disease is such as I have stated.—Neither should a variation from the times or periods of the attack, or a longer or shorter paroxysm. These varieties will occur, and it requires but little judgment to adopt the necessary measures to each case. The cases here described are intended to represent, the mass of common cases, and the treatment is adapted to such cases especially. But there are other cases not coming under this account, or allowing the same mode of treatment. The most important of these, I shall attempt to present; hoping thereby to lessen the danger of some of these cases, and to render less intricate, a tangled wilderness of medical authorities.

#### CONGESTIVE FEVER.

This name, for a variety of bilious fever, has of late had great currency; but with meaning, so uncertain as to render its discussion difficult. Doctor Dunglison defines it “a fever accompanied by obscure symptoms; or by great oppression and depression”—he adds that these fevers occur in various parts of the country, “especially in the fall; and they are very common in India.” My attention will, at present, be exclusively directed to those cases of congestion, which occur in autumnal or bilious fevers. Strictly speaking, the term congestion signifies “the accumulation of blood or other fluid in an organ.” I use the term in a more extended sense, to signify a *malignant bilious fever*, with obscure symptoms, and characterised by great “oppression and depression of the system.”

An opinion, that this form of bilious fever is more common



now adays, than formerly, prevails I think, very extensively. I am frequently asked by physicians, if I do not think the prevalence of congestive fever at present, an example of the great change in elements, so often noticed by writers, and especially by Sydenham, as a change in "the constitution of the atmosphere." Others hearing a term so new to them, desire to know if congestive fever is a new disease. I think it is not a new disease, but an old one, under a new title. The obscurity of its symptoms, has caused it to be misunderstood, and mis-called a thousand times. Many sudden deaths which have occurred from it, have been charged to other diseases. Doctor Rush, who knew fever only as a state of diseased action, and witnessing only the want of action in these cases, invented the term "*suffocated excitement*," to signify their character.— This term did not obtain currency, and when I became a practitioner myself, the term *collapse* was used to signify the same state of the system. It is a malignant form of fever, arising from great concentration of malaria in the place it is contracted in, and is attended with great danger. I have never seen it occur, where the cases of fever were few, or of mild character, and have seen years pass without witnessing a single case of it in Milledgeville or its neighborhood. Yet in sickly seasons in the same place, I have met with many cases in a few weeks.

Congestive fever, like common bilious fever, is a disease of paroxysms. This, I am apprised, has been overlooked by some; but I have never seen an exception to it. The dying struggle which sometimes continues for days, is no reasonable exception to this rule. The disease runs its course, and is a remittent, with violent paroxysms every second day, just as they have been described in common cases of fever. I have never seen the first paroxysm fatal, and have seldom seen the symptoms which denote congestion, occur before the third day, or second paroxysm. I have not observed that the first attack, of this form of fever, was unusually violent, but think I have noticed a want of color in the skin, with slow and deep breathing, and a carelessness, or rather torpid state of the mind.

The congestive fever is a disease of obscure symptoms, yet it is the same as bilious fever, in having paroxysms and remissions, and a violent and a mild day. But here the parallel ceases. The pulse, in congestive fever, is sometimes small, and scarcely perceptible; at other times, or rather in other cases, tranquil even, and nearly as in health. The skin is cool, especially where exposed to the air, and on the extremities. The

nails are purple, and the face pale or mottled. The blood in the smaller vessels of the skin, seems to move slowly—the finger pressed on it, leaves a white mark, which disappears slowly on its being removed. The complexion though tawny is not bilious, and I have seen the whites of the eyes of a pearly white, near to the hour of death. These symptoms denote depression, and, according to our experience in other cases, should be followed by great heat and a bounding and full pulse. This does not occur. A feverish heat gradually extends to the extremities, the breathing becomes easy, and the patient tranquil, but the skin does not recover its proper color. The heat of the body does not rise to a great height at any time, but while the extremities are cool, an examination will often show great heat of the chest and back; as if the heat too, as well as the blood, had accumulated in the great central organs.

Pain is not always felt in this form of fever, yet it is sometimes present and very violent. The mind is usually free from delirium, and in the remission, marked by a disregard of the danger which is obvious to every one. The pain which I have witnessed in these cases, has attacked the liver, spleen, stomach and intestines, being experienced over an extensive region with great violence.

Many years ago I was called to see a mill-wright, who had an attack of congestive fever. I saw him on the morning of the third day, in the chill, which was very slight. I left him under advice, but in an hour was called in haste to see him.—He had been suddenly attacked with violent pain in the region of the liver, spleen, and intestines. He was writhing in agony; pale, cold, and with a feeble pulse; he rolled from side to side, not drawn like one in colic, but desperate, and ready to swallow any thing which promised ease. I gave him a full dose of calomel and laudanum, and advised hot applications. A short time brought him ease, and a state of tranquility not to have been expected. His calomel operated in the night, and I found him the next morning, sitting in a chair reading a newspaper. His pulse was rather feeble, and his skin rather tawny, and mottled, but in other respects I could not have thought him very ill.

The next morning, I made it a point to be present, before the hour of his chill. He had spent a bad night, and his chill came on at its hour. Shortly he had a renewal of the attack of pain, with symptoms more violent than before. His remedy was repeated, but with less effect—he became delirious, or rather wandered in his thoughts—his pulse gradually sunk, and he

died about nine o'clock at night—twelve hours from the attack of the paroxysm. This is an example of congestive fever, as I have several times witnessed it. At a later period of the disease, I have seen patients run into a state similar to this, with less pain, more delirium, and perhaps equal danger. Commonly the case terminated in death, without ever reaching another paroxysm.

A great deal more might be said on this form of fever, but I fear it would not much improve our knowledge. The disease is as obscure as it is dangerous, and the danger is greater than the symptoms would seem to warrant. The strength of the patient is less reduced than might be expected, his complexion is not bilious or of saffron tinge, but tawny, with a blue or purplish shade, especially under the finger nails. This purple tinge which extends over the whole surface, is perhaps the most certain mark of the existence of this state of fever. The stolid, or indifferent state of the mind, I have frequently noticed, and I think its attacks are principally on grown persons.

*Treatment of Congestive fever.* Quinine is now considered the sole reliance in congestive fever. It is given, with little regard to time or quantity, so that enough is given. Florida, Alabama, Mississippi, Texas, and Mexico are now furnishing a wide field of experience in the use of this remedy in this disease. We are under great obligations to the physicians of the army, and others who themselves brave the danger, and publish accounts of its management. I think time will shew, that some of them have been rather enthusiastic in their administration of quinine. When I read in some of their accounts, that patients struck down with congestive fever, and rather dead than alive, have been rescued from the grave by the daily use of eighty or an hundred grains of quinine; or perhaps by doses of forty grains administered, I know not how often, and that these recoveries have, after three weeks, appeared perfect, with the exception of the deafness, which had not yet given way, I think the disease might have been as successfully treated with a moderate use of quinine, and the deafness and attending nervous symptoms avoided.

My own course in these cases is to procure, on the day of the greatest paroxysm, a free action on the bowels, by calomel followed by seidlitz powder or Epsom salts. This is not always easily accomplished. The prostration of the system, weakness of the pulse, and agony from pain, seem to demand the free use of laudanum, and I have been satisfied with its effects. I give the calomel and laudanum together, and do not

expect a cathartic effect before the pain subsides, and the fever is near its lowest point. I have tried the use of cathartics on the day of remission, or well day, as it has been called ; but have thought the succeeding paroxysm rather worse than better, from their use. The use of calomel and laudanum should be repeated every second day, or on the third and fifth days in particular, and with this moderate treatment, I am fully persuaded, that more success will be had, than with a more active course. Doctor Rush bled and gave calomel and jalap ; tartar emetic in large doses has been tried by others—to some extent, I have seen all these measures put in requisition, and after witnessing their effect, and comparing results under my own method, have come to the conclusion, that all these debilitating and drastic remedies are hurtful. One or two doses of calomel, followed by the mildest purgatives, and combined with laudanum according to circumstances, form the whole of the active or depleting remedies, I think admissible in this dangerous disease.

But these remedies do not hinder the great specific, quinine, without which our control of congestive fever would be lost.—It is fortunate, that this remedy is proper in this, as well as in other forms of bilious fever. I have seen much harm from the use of violent cathartics and emetics in this disease, but none from quinine. Use it early and freely. As soon as the remission happens, commence with quinine, in doses of two grains hourly. If it is not administered early, let the dose be enlarged to three or four grains. Thirty or forty grains is the most I should advise, in two days. Give half this quantity on the day after a violent paroxysm, that is, on the day of the remission. On the morning of the worst day, commence very early—at three or four o'clock, and give hourly doses of three or four grains, till fifteen or twenty grains are taken.

The remedies for congestive fever, are few and easily administered ; the difficulty is in knowing the disease, and judging of the time at which the remedy should be given. The obscurity which attends such cases, arises from the absence of the reaction which characterises bilious fever. The chill is scarcely obvious, and the agony, distress, and pain, which attend it, differ so widely from common fever, that physicians often mistake the case entirely. Some attention is to be paid to the place and season, at which such attacks occur. If these raise a reasonable suspicion, then notice the going off of the chill or pain, and agony ; and a fever, though not very high, will be ob-



served. The heat will gradually extend to the extremities, and burning heat of feet and hands will be complained of.

It is still worse, when the symptoms of congestion are not noticed till they assume a permanent form, and can only result in death. This state often occurs as early as the third, or fifth day, and in truth, does not give rise to obvious fever. No advantage can here be taken of time or circumstances. Quinine and laudanum are here to be given and repeated, from time to time. I have added camphor, I think, with great advantage. Five grains may be given hourly till twenty or thirty grains are given. An experienced physician should, if possible, be present during such cases.

*With Cholera Morbus.* This is a frequent and violent form of bilious fever. I use the term *cholera morbus*, to distinguish it from spasmodic cholera, as the disease in question is never attended with spasms. No bilious fever is more regular in its course than this—a milder paroxysm at night with nausea—a remission of a few hours in the morning—then a chill, with vomiting, commonly of bile; which, after the fever has risen, is followed with large bilious discharges by the bowels. The paroxysm subsides at night with but little perspiration, and the next morning the patient, pale and debilitated, reports himself much better. He now passes the day in ease and comfort, till evening or night, when the light fever and restlessness of bilious fever commence again. On the next day the attack is renewed, and goes through the same routine with wonderful exactness. Such cases are apt to continue for seven or nine days, when a crisis occurs, and the patient recovers, or sinks to rise no more. This form of fever, is distinguished from others attended with sickness at the stomach, by the copious discharges of bile from the bowels, during the hot stage. The discharges are not frequent, but copious, and the nausea not so distressing as in other cases. The restlessness and general distress is also less.

*Treatment.* This is a dangerous grade of fever, but under proper treatment, seldom fatal. Nature should not be thwarted in her operations too hastily. The copious discharges of bile, are curative, and should not be checked too soon. The administration of calomel, tartar emetic, and nitre, in combination, produces symptoms very nearly resembling those produced by the curative powers of nature in the case we are considering, and I can truly say, with nearly the same good effect. This form of fever has been regarded as a strong exhibition of the powers of nature, in throwing off the matter

which caused the disease. I offer no opinion, but fortified by experience, I say, give neither emetic nor cathartic. Let nature in this case, perform her own work.

The first remedy in these cases is laudanum or opium. If the discharges are copious, and still more, if the stomach and bowels are racked with pain, give from sixty to eighty drops of laudanum, or three or four grains of opium. These are large doses, and suited to a violent disease, but may be lessened where the case does not seem very severe.

The thirst in these cases is considerable, but should not be indulged by using too much cold water. The griping pains and nausea will be less, if weak tea or warm water is used to allay thirst.

The cold applications, so agreeable and useful in other cases, are not called for in this, as the skin is not usually very warm, and the head commonly free from pain.

I have but one more remedy to mention—the specific, *quinine*. This is to be given on the better day, and on the morning of the chill day, or worst day. Give about eight pills of two grains each, in the course of the day of remission, or as it will happen, on the second, fourth, and sixth days. The next day, expect the chill, or prevent it by beginning with quinine, six hours before hand, and giving two grains hourly, in pills, or what is probably better, in solution. Laudanum may be combined with the quinine in these cases, if the symptoms of prostration are considerable.

Under this mode of treatment, this violent form of bilious fever, will commonly be arrested in five or seven days. I have cured many such cases, with bark and laudanum alone, before quinine was discovered, and I have always remarked, that the cure of these cases was almost sure to be perfect.

*Comatose state.* The word coma signifies, profound sleep, but has been long used to characterise a state of disease attended with stupor, or a sleep too deep to admit of being easily aroused. This is frequent in bilious fever, and has been treated of as a particular variety by several writers.

This is a high grade of bilious fever, frequently terminating fatally as early as the fifth day. There is nothing peculiar in its manner of attack. A light fever on the first day, with a remission on the second, followed by a restless night, brings around the third day. The slight chill which now comes on, produces but little uneasiness. The case is usually considered very mild, or probably not regarded as a bilious fever at all. The fever rises suddenly; but the patient utters no com-

plaint—is presently heard to breathe heavily, and, on examination, found stupid, sometimes as unconscious, as in apoplexy. Up to this time, the disease may have been thought of little consequence—now it is surrounded by all sorts of doubts and surmises. Is it apoplexy—is it from strong drink, or other poison? If death occurs, the doubt is considered almost changed to certainty. Many die in this way who are not suspected to have died of bilious fever. But we must return to our narrative of the symptoms.

The physician, perhaps suddenly called on, finds his patient lying on his back, the attendants standing aghast, but offering no assistance. He takes hold of the wrist and finds the pulse full and bounding, but slow, probably not over eighty to the minute. He tries to arouse the patient, and if the case is not extreme, partially succeeds. I have a very distinct remembrance of a case in point. Having aroused my patient by shaking, he opened his eyes. I asked in a strong voice—“are you in any pain?”—he replied *no*—“then how are you?”—*well!* said he, and closed his eyes. In other cases, the coma is so profound, that the patient cannot be aroused.—I have in such cases raised the lids, and the eyes remained opened, exposed them to bright light, and they did not move, but, with the pupil contracted, gave an indistinguishably awful expression. This state of fever has been termed apoplectic; but it differs widely from that disease. The coma, from fever, resembles a profound sleep—the patient is quiet and does not move. In apoplexy, there is great appearance of distress, and, in most cases, constant attempts to move some of the limbs. The heat of the body is much greater in fever, and the perspiration more profuse. I believe the patient who is comatose in bilious fever, is, in every instance, covered with a profuse perspiration. His complexion is florid, and his eyes free from the tinge of bile. The coma does not last through the night; and the next morning the physician finds his patient so far restored, as to give a fair account of his previous symptoms.

The case will now be recognised as an attack of bilious fever. Coma will return in the paroxysm, on the rise of fever, each alternate day. In all other respects it will progress as other cases, and run to an early crisis.

#### TREATMENT OF COMATOSE FEVER.

The pupils of Doctor Rush, were taught to use no evacuants except on a full pulse; but in these cases of coma, the

lethargy of the patient hindered the administration of remedies, except on the days of remission, when the pulse did not seem to warrant those which were active. This, I confess, was a great source of embarrassment to me. With such views, I was thrown on the lancet and cold water. It was my practice to bleed freely in coma, and to use cold water, applied by sponges or towels, to the whole surface, as long as I thought the symptoms required it. The practice was efficient and successful. But the theories then followed, went too much on the principle, that to subdue a paroxysm was to subdue the disease. It was not then suspected that a remedy with power to arrest a paroxysm, might produce a prostration, which would invite another and a greater paroxysm. More experience, and I trust sounder views, have taught me to take care of the strength of my patients. The means we have of reducing the quantity of blood and other fluids of the system, are remedies of great value, and should be used, but not abused.

Bloodletting is a great remedy in coma, when it occurs in bilious fever. Sixteen or eighteen ounces of blood, drawn in a full stream from the arm, will, in almost every instance be sufficient. The operation should be performed as soon as the fever has attained its height. If the patient is robust, and the disease violent, a larger quantity of blood may be drawn. Let the practitioner decide on the quantity he will abstract, and take that and no more. Let no attempt be made to bleed till the pulse gives way. Abstract the quantity you deem necessary, and do not allow a show of faintness, during the flow of blood, to deter you from the sufficient use of this remedy. Individual temperament, enables one to stand up under an enormous loss of blood; but subdues another as soon as the current begins to flow. Blood should not be drawn late in the disease, or late in the paroxysm. If the practitioner does not arrive in time, he had better forbear this remedy. He ought to be a competent judge, how long the paroxysm has still to last, if undisturbed by remedies; and I here give him my opinion, that if the paroxysm has spent its full force and is on the decline, though the pulse be strong, and the fever yet high, the bloodletting will do harm, rather than good. A paroxysm on the decline, does not require to be forced off by so powerful an agent—it commonly subsides with sufficient rapidity of itself.

The next remedy is, the application of cold. The profuse perspiration which attends these cases, has been thought a reason for withholding the cold. I decide the question without the least hesitation. I have tried it fearlessly, and fully,



and have no doubt of its great superiority over all other remedies, not even excepting the lancet.

My mode of applying cold is this; having waited till the chill stage is over, I take water, at the usual temperature of our springs or wells, apply it freely to as much of the surface as is thought necessary—using no ice to the head, or any colder water than that I have mentioned, to other parts—let the surface be exposed, and cool air applied by fanning. The physician who will do this with his own hands, will be surprised at the rapidity with which the pulse will subside. Few cases will require the application to be extended beyond the face and arms, and perhaps the legs and feet. Let the surface on these parts be kept faithfully bathed, not by a timid and doubting nurse, but I repeat, by the physician himself, and he will find the pulse give way, and his patient recover his senses in a surprisingly short time. I have so often found this occur in less than an hour, that I have of late seldom thought it necessary to use the lancet, even in coma. It will sometimes happen, that the stupor will continue after the heat has been greatly reduced, and the pulse has become almost natural. Let the bathing, in such cases, be suspended for a time. If the pulse should rise and the heat increase, return to the cold applications, and the senses will probably soon return. Should the case prove untractable, and the stupor excessive, I would approve of the application of ice to the head; but I cannot call to mind a case, in which the coma has failed to yield promptly to the cold water, with, or without bleeding.

I have thus given the mode in which I treat the paroxysm in this form of fever. The remission and the smaller paroxysm are to be treated as in other cases. Let a full dose of calomel be given on the day of the remission, and see that it operates before the next day. To accomplish this, give castor oil or seidlitz powders if necessary. A moderate operation by the bowels on the night of the second and fourth days, is all the cathartic remedy I have found it necessary, or I may say, practicable to give.

Quinine is our great reliance for the arrest and suppression of the paroxysms of this form of fever. Give it in full quantity, on the day of the remission, and on the mornings of the days on which the paroxysm is expected. I need not repeat the manner of doing this.

I have found this a peculiarly instructive form of fever.—Taught to believe, that bilious fever was entitled to its name, from its peculiar action on the bile-secreting organs, and that

every paroxysm, which was allowed to pass without the discharge of bile by emetics or cathartics, produced an accumulation of bile which would tinge the skin, corrupt the blood, and otherwise produce great mischief; I regarded the stupor which rendered it impracticable to use these remedies, with special alarm. This embarrassment was the more felt, before the discovery of quinine. The bark was not much relied on at best; but it was considered dangerous where full evacuations from the bowels, had not been brought on. I have treated many cases of comatose bilious fever, without the use of bark or quinine, and with very slight evacuations from the bowels on the remission days alone. I found, notwithstanding these hindrances to my plan of treatment, that recoveries from this form of fever, were usually perfect, and that there remained after them less disorder of the stomach or of the liver and spleen, than after almost any other form. I inferred from this, that the liver was not always the seat of disease in bilious fever. And I still entertain the belief, that our treatment of bilious fever should not be founded on the notion, that the removal of bile is the great business of the physician. The liver in certain cases forms enormous quantities of bile, and its discharge is unquestionably of essential service, but in the comatose state, the liver appears to act a subordinate part. It seems to act with no great energy, while the skin, in throwing off by perspiration, probably performs the same curative operation. I think the great point of comatose fever, is the copious perspiration which attends it. The mind is stupid and inactive, but the skin is much excited. If the bile is not produced, perspiration is an effective substitute.

A word more, and I have done with the comatose state of fever. The coma I have been considering, arises early in the disease, and is a regular paroxysm of every alternate day.—Let it not be confounded with the stupor which sometimes comes on at the close of a fever, where the patient sinks under a cold and protracted perspiration.

#### CONVULSIVE STATE OF BILIOUS FEVER.

Doctor Dunglison's definition of this form of fever is—"A pernicious intermittent, accompanied by convulsions." The cases I have seen, were not intermittent; but, a very high and dangerous grade of remittent fever. The symptoms were, in all respects, the same with other cases of bilious fever prevailing at the same time, with the exception of the convulsions.

Convulsions seldom occur to grown persons, in remittent fever. Children, seven years old or less, are the common subjects of them. The convulsions in these cases, have a close resemblance to epilepsy, and need not be described here.

A few observations in relation to these cases will be all that I deem necessary.

The first remark that I would make is, that there is no time at which the convulsion may be expected to come on—it may occur in the chill, or in the paroxysm of fever. Nor is it at all certain, that the patient who is attacked with convulsion in chill, may not be attacked in the midst of the next paroxysm, or perhaps not have it again during the continuance of the disease. Convulsions in fever, are to the last degree irregular in their returns, but not so in their peculiar symptoms—these will be the same in every attack.

Persons subject to epilepsy, will be apt to have a convulsion in fever; and there are many children, who seem to be easily excited to convulsions, and will be convulsed in every paroxysm of fever, however moderate. In these cases, the convulsions seem not to increase the danger.

But convulsions brought on, not by the temperament of the patient, but by the violence of the disease, are extremely dangerous. If they occur in the chill stage, the danger is still greater, and if the muscles of one side—the arm, leg, face, and neck, or any of them, take on convulsive motions, while the other side seems unaffected, the danger is greatest of all. I do not think I ever saw a single recovery, where the case assumed this form.

#### REMEDIES.

The warm bath has been extensively tried in this form of fever. The attack is usually, on a child, sudden and unexpected. Physicians, I have no doubt, introduced this practice. I think it pernicious, and have discountenanced it for twenty years, but with so little success, that I still hardly ever reach a case of convulsions in fever, without finding my patient in a tub of warm water, or just withdrawn from one. The urgency of the case, seems to admit of no delay; every one has seen the warm bath used for convulsions, and my opinion to the contrary, is forgotten or unheeded. For this reason I have seldom seen the first onset of these convulsions, treated as I would have desired. The warm bath is, I think, the most unmanageable of remedies. To a person in high fever, it is at first, very oppressive, and if continued at a con-

siderable heat, for a long time, it suddenly becomes the most exhausting remedy I have ever seen tried. Now, this final effect, of reducing the system, would be a remedy for convulsions, if it could be carried to the right extent and no further. But with the patient, a child, in a state of insensibility, I should feel at a loss in continuing, or staying the process. For this reason, and on account of having seen it tried, a hundred times, as I think, with little benefit, I object to the use of the warm bath.

No state of fever produces a pulse of more activity, or a circulation of the blood more rapid, than the convulsive. The convulsions commonly last only a short time, and are followed by a deep state of coma, great heat, and the most throbbing and violent pulse. Sometimes the convulsions last longer, or are renewed after a short time; but the stupor and violent circulation are the same.

These symptoms seem to call for bloodletting and cold applications. If I see a patient early in such a case, I open a vein and bleed freely. But this is sometimes not easily accomplished in young children, and I have not unfrequently resorted to cold applications alone. In some cases the convulsions do not produce coma to such an extent, as to hinder the administration of remedies. In these cases an emetic is to be given.

Where convulsions produce coma, all the difficulties attending the treatment of comatose cases, attend these also. The pulse in the remission, will remain full, and a degree of heat proportioned to the circulation, will be present. But these symptoms do not forbid the use of quinine. It is to be given freely, on the day of the remission, and for five or six hours before the coming on of the greater paroxysm on the next day. By treating every paroxysm with cold applications, and by letting blood, while there is strength to bear it—and using the quinine as above directed, the cases of fever with convulsions will be as successfully managed, as by any other means, with which I am acquainted.

No form of bilious fever is more difficult to treat properly than this. A physician ought always if possible to be present. And he should recollect that a fever in a grown person with coma, is almost the same with a fever with convulsions in a child. The treatment of the two cases is the same.



## GASTRIC FEVER, OR FEVER OF THE STOMACH.

This is a bilious fever, affecting the stomach principally. It differs essentially from the nausea and vomiting of common cases, and as much from those attended with cholera morbus. The case now under consideration, attacks the stomach with such violence, that it seems the sole seat of the disease; and other organs seem scarcely at all affected. There are two varieties of this affection, which I deem worthy of separate consideration.

1. The first is known by intolerable thirst, burning pain at the pit of the stomach, vomiting, restlessness, and deep, or laborious breathing. The attack at first, is without any peculiarity, a fever with a mild and a violent paroxysm, on alternate days. On the third or fifth day, a violent vomiting seizes the patient. Every thing swallowed is instantly rejected. The matter thrown up may be bilious, but is not remarkable for its quantity; great restlessness, and constantly increasing heat, and pain at the pit of the stomach, follow. The case is now one of great agony. Thirst, the most intolerable of the evils felt, is sought to be relieved by large draughts of cold water, which afford relief for a moment only. The countenance becomes haggard, the features shrunk, the eyes hollow, the voice hoarse, and the strength of the patient gradually fails; the surface becomes cold, the pulse rapid and feeble, and there is great danger of speedy dissolution.

Laudanum is a sovereign remedy for this state of the system. Give a tea spoonful, and if it is rejected, give instantly a second, and a third, if necessary, till one is retained. If it is found not to remain, give opium in pills to the same extent. Under the influence of this remedy, the thirst will subside, the restlessness cease, and a state of delightful tranquillity ensue. A comfortable night will follow, and the next day will offer a fair opportunity to administer quinine efficiently, to hinder the next paroxysm. I say nothing more in reference to the treatment. This case admits of no active treatment, by operating remedies, in the paroxysm; and, probably, will not require more than a single dose of calomel, on the second or fourth night.

With this treatment, this formidable disease gives way readily, and with but little loss of time. The danger of wrong, or inefficient treatment is great. I was once called, on the fifth day of the attack, to a case of this kind. The patient, after a light chill, commenced vomiting. He took a dose of

Glauber's salts, which did not arrest the vomiting. I saw him three or four hours afterwards, and found him vomiting almost constantly and swallowing cold water, by the half pint, every five or ten minutes. He had in this way, in two or three hours, taken nearly two gallons of water. His face began to look shrunken, and his voice became hoarse and hollow. He had no passage from the bowels.

I administered a tea spoonful of laudanum, which he retained, and vomited no more. In an hour, his skin was covered with perspiration, and the paroxysm terminated in a remission, favorable to the administration of bark, which was so used, that he had no return of fever.

I will relate another case. Gen. E. Brown of Hancock, resided sixteen miles from Milledgeville. He had this form of bilious fever, had struggled through the fifth day, and was again attacked on the seventh. I found him lying on his back, with arms extended, breathing deep, countenance haggard, and eyes dry and bloodshot. He raised his arms on seeing me, but was too hoarse, and too weak to utter many words in connexion. He had been treated for inflammation of the stomach, with blisters, and I do not recollect what else. He was now evidently sinking, but taking only a few drops of essence of cinnamon, from time to time. This feeble remedy was thought all the inflammatory state of the case would sanction, in the way of stimulants. He had great thirst, but forbore the use of much water, and therefore vomited less frequently.

I gave him a tea spoonful of laudanum, and ordered for him a glass of brandy toddy, with two ounces of brandy in it.—These remedies, taken at the same time, were retained. In an hour, he was covered with a warm perspiration, and expressed himself as entirely relieved. The next day he was put on the use of bark—for it was before quinine had been introduced—and recovered without experiencing another attack. He lived to testify his gratitude, in a manner rarely equalled.

2. The cases of belching, or eructation of bile from the stomach, are not so frequent, but more formidable than those I have been describing. They are also more irregular in their symptoms and times of attack. The terms, eructation and belching, conveying the same meaning, have been restricted to the raising of air from the stomach, and discharging it through the mouth. By a process exactly similar, fluids and solid matter contained in the stomach, are raised and ejected, or spit out. The process differs from vomiting, in being noise-

less and without nausea. It appears to be an easy belching, but instead of air, fluids are raised. This process, when begun, is continued, if not arrested by powerful remedies, throughout the disease. Left to itself, I believe it proceeds uninterruptedly to death. I have never seen a paroxysm return, after this state of the stomach came on; and I had practiced medicine many years before I had witnessed a recovery from it. I believe it does not often occur before the fifth day of the disease. The bile raised is always fluid—not ejected, as in vomiting, but spit out from the mouth like water.—At first, it is yellow, but becomes green, as the juice of wheat; and, towards the last, I have seen the green matter quickly settle to the bottom of a transparent fluid. The presence of the bile in the throat, is, at first, not complained of; but, after a time, it flays the mouth and throat, and is complained of, as if it were caustic. When these eructations begin, the strength is but little exhausted, the skin soon becomes cold, and a dew of moisture is felt on the forehead. Gradually the strength fails, the mind gives way, the patient still belches, and spirts the bile, over clothing and attendants; hiccapping follows, and death occurs, frequently in a day from the attack of the eructations.

These attacks are insidious, and come on in cases not deemed violent. Having visited a gentleman who was indisposed, and administered medicine to him, he remarked that his servant man was unwell and in need of medicine, and called to him to come in for examination. A robust young negro man obeyed the call; and, as he was crossing the yard, with a light and firm step, stopped suddenly; his shoulders were jerked up, and his neck bending, gave evidence of eructation. He spit out a large mouthful of bile. I learned from him that he had been two days unwell, but not so much so as to think of taking medicine; that this was the first time he had raised any thing from his stomach in this manner, and that even now he could not complain of much pain or sickness. On dismissing him, I could but admire the firm step, and graceful movement, by which he crossed the yard, as I was fully impressed, for his last time. I had not the least hope of his recovery, and so announced to his astonished master. Death was punctual. The poor fellow died in about thirty hours. This is one of many cases, of this kind, which I have witnessed.

*Treatment.* Till the eructations have occurred, I have never observed any thing striking in this form of fever. The cases it has occurred in, have appeared so mild that I have always

been taken by surprise, when these eructations have happened. Nor have I found the paroxysm run on regularly after this untoward symptom takes place. Generally, the instant it is seen, the fever, or heat of the system subsides, and there is no return of chill or fever. The case proceeds, in a regularly descending course, to the end. I remember a single instance in which the eructations ceased on a day of interval, and again returned in the paroxysm of fever.

It is obvious that the treatment of these cases, should turn mainly on the removal of the belching. This is to be attempted by giving opium and camphor. Take of opium six grains, camphor forty grains, and compound them into twenty-four pills.\* Give three of these pills hourly till the eructations cease, and afterwards one at a time, so as to give from eight to sixteen a day, as the symptoms may be more or less subdued. This remedy alone, has, in my hands, suppressed these fatal eructations. The length to which it should be carried cannot well be defined. I have often given the prescription of six grains of opium, and forty of camphor, in the course of twenty-four hours, for three successive days. In a few cases I have given twice as much in one day. I have seen delirium brought on by this remedy, and continue for a long time, attended with relief from the eructations and the final recovery of the patient. The first recovery I ever witnessed in such a case, was in a strong young negro man, who, under the use of the remedy, ran into a singular delirium or madness, which lasted for three weeks. Since then, I have never failed to prescribe opium and camphor, and with satisfactory results.

The use of quinine is by no means hindered by the remedies I have been speaking of. I have found it rejected or belched up when given alone; but, in combination with the camphor and opium, it has been retained, and I think with great benefit. The last case I witnessed, was successfully treated by laudanum and spirit of camphor, combined with full doses of quinine. I think the quinine should not be given, except at the period of the remission of the fever; but after the first day of the eructations, when no remissions or exacerbations are to be expected, this great remedy should be vigor-

---

\* Camphor and opium are reduced to pills by first wetting the camphor in alcohol, or spirit, and rubbing it into powder with the opium. Then make it into pills with strong mucilage of gumarabic. The same remedy may be given in powders, mixed in honey or syrup. Or it may be given in the form of laudanum and spirit of camphor, united, so as to equal the strength of the pills.



ously administered, during the remainder of the case. I conclude with the remark, that by the timely and judicious use of opium, camphor, and quinine, this dangerous form of bilious fever will be generally treated with success.

#### FEVER WITH URTICARIA—NETTLERASH, OR MAD ITCH.

This is a form of bilious fever, attended with regular paroxysms, a milder, and a more violent, on alternate days. The minor or lower paroxysms, are unattended with any peculiar symptoms; the greater or morning paroxysms, are attended with urticaria.

The disease is ushered in with a chill. As soon as this subsides, the breathing becomes very much oppressed; great pain is felt in the region of the stomach; the face becomes pale, and the whole surface, assumes a mottled or purplish hue—soon a violent itching is felt, on some part of the body, which quickly extends along the sides, and parts of the extremities.—Wheals appear, with their broad bases and white tops, and the restlessness, oppression, violent pain, and intolerable itching, constitute this, a most painful disease. In a short time the skin becomes red, and a very high degree of feverish heat occurs; the pulse, which had been in the outset feeble, is now full and bounding; the wheals disappear, and by degrees, the fever subsides; leaving the patient, exhausted, feverish, and uneasy.

The next day is passed in comparative comfort, but at night, a low degree of fever, with restlessness, oppressed breathing, and some anxiety supervenes. Such are the greater, and milder paroxysms, of this form of bilious fever. It pursues the same course, from day to day, to the end: it would therefore, be useless to extend the description.

*Treatment.* The peculiarity, which I have found it necessary to make, in the treatment of this form of fever, has induced me, to give to it, a separate consideration; as if it constituted a variety of the disease. This peculiarity consists in the avoidance of all evacuants—cold applications—bloodletting, or other depleting or weakening remedies, on the day of the greater paroxysm. When I am called to a patient, laboring under this oppressive form of fever, I administer laudanum; a tea spoonful, if the case appears violent, or a less quantity—40 or 50 drops, if it seems less threatening. If the patient has not previously taken calomel, I combine it with the laudanum. The operation of the calomel given in this

way, cannot be expected to take place, in less than ten or twelve hours. This operation will take place in the remission of the fever, and should not be increased by the administration of other cathartics, unless the calomel fail for twelve hours to produce its effect. In this event, a moderate dose of castor oil should be given. A very gentle operation from these cathartics, is all that is required: and, it should be borne in mind, that in this case, cathartics are apt to prove drastic, attended with much pain, and frequent discharges. To obviate this, laudanum should be given, in doses suited to the occasion.

The whole treatment of this form of fever, on the day of the greater paroxysm, consists in administering opium and calomel. The opium may be given in the form of laudanum, morphine, or Dover's powder, in doses suited to the case. The calomel may be given in the paroxysm, or on the next day; but it should, in this case, be made to operate more briskly, by the use of castor oil, or Epsom salts, given within an hour or two after the calomel is administered.

I have said, that cold applications are improper, in the paroxysms of this form of fever; cold drinks are to be used with equal caution. If the patient is allowed to indulge, in draughts of cold water, proportioned to his thirst, violent pain and spasms in the stomach and bowels, may be apprehended. Contrary to ordinary experience, I have found warm drinks, especially warm tea, more agreeable, and more allaying to the thirst, in these cases, than the cold drinks, which the patient would have desired.

A single additional remedy, and I have done with the treatment of bilious fever with nettle rash. This remedy is quinine. It should be given on the day of the remission, and on the mornings of the days of the paroxysms, as has been advised, in ordinary bilious fever.

The small variety of medicines advised in this form of bilious fever, makes it proper I should state, that they are uniformly successful. The only cases of bilious fever, with urticaria, which I have ever seen to bring the patient into great peril, were aggravated in their violence by the improper use of drastic emetics, or cathartics.

HEMORRHAGE, OR COPIOUS DISCHARGE OF BLOOD FROM THE  
STOMACH OR BOWELS.

Copious discharges of blood, ejected from the stomach, or passed by the bowels, in the paroxysm, occur only in a very high grade of bilious fever. Unlike the hemorrhage which occurs in the closing scene in typhus, this makes its appearance in the earliest stage, or first violent paroxysm. Soon it appears to be the absorbing feature of the case, and death or life, manifestly depends on its extent.

The attack, in this form of bilious fever, is violent from the first. On the morning of the third day, a slight chill may be expected. Heat and a full pulse, with great restlessness, follow. A violent vomiting ensues, but with no appearance of bile; but in the course of an hour, after numerous efforts to vomit, a large discharge of blood from the stomach takes place. This blood looks entirely fresh, and more florid than if just taken from a vein. It is seldom coagulated when thrown up, and is frequently nearly free from any admixture. After several times vomiting, and a large discharge of blood in this way, the blood seems to find its way through the bowels, and is thus discharged in equal purity. The quantity of blood, which I have seen discharged in this way, in a few hours, is enormous. I have never had an opportunity of ascertaining it exactly, but it has unquestionably extended to more than three quarts. The patient bears up, wonderfully, under this discharge—I have never seen one faint. As soon as the discharge of blood commences, the heat and other symptoms of fever disappear, and it appears to be a case of simple bleeding. The discharge of blood ceases, after having continued for several hours, and a night of great prostration, but quiet follows. The next day a very light degree of fever may be observed; at night it will increase, with restlessness, and nausea, but no vomiting.

The next is the day of the greater paroxysm, and will probably terminate the case. The hemorrhage will return; and death or recovery awaits its termination. It rarely returns a third time; indeed I do not recollect to have seen a third attack of this hemorrhage.

This form of fever, seems to threaten life, with instant extinction; but I have rarely seen it fatal. It is rather uncommon—I do not think I have seen more than ten cases; and five or six of these occurred the same year.

*Treatment.* Whether this disease is a curative process, not

tending to the destruction of life, cannot readily be ascertained. It will seldom be allowed to run its course without remedies, and to these its favorable issue will probably be attributed.

I advise the following prescription. Take of opium three grains, sugar of lead six grains, make into pills, and give at one dose. The remedies may be combined in powder, or the opium given in any other form. The discharge of blood will probably cease in half an hour; but if it does not, and the patient seems to be sinking, a smaller dose may be given, in the same way, and repeated, from time to time, according to the urgency of the case. Applications of cold water may be made to the pit of the stomach, by towels; and the heat kept down by sponging, or wetting the extremities, with cold water, and keeping up a current of cold air, by the use of fans.

No cathartic, or evacuant whatever, will be required. With my present views of the subject, I should give a dose of calomel, on the days of the remission; but from my past experience, I am bound to say it is not indispensable. I have not seen a case of this form of fever, for many years. During the time I met with occasional cases, it was so much my practice to avoid evacuants, on the day of remission, that I gave nothing of the kind, in these formidable cases. Nor did I venture on them, during the discharges of blood; for this was so excessive, that I thought it fully equivalent to bloodletting, cathartics and emetics combined. Giving as I did, the opium and sugar of lead, in the paroxysm, I was left with the day of the remission, to give the Peruvian bark in some form.

This mode of treatment, was, in my hands, abundantly successful. Not only did every patient I was called to, in this case, recover; but the recovery was perfect. No yellowness of the eyes, enlarged spleen, or inflamed liver, followed, in a single case. The extreme paleness and debility were rapidly recovered from, and the return to a full enjoyment of health and strength, was surprisingly quick. If therefore I were now to treat a case of this kind, a very moderate dose of calomel, on the day of the remission, is all the evacuant I should give. And I should think it immaterial whether the operation was effective or not.

But on the day of remission, and on the morning of the expected paroxysm, let the great specific, quinine, not be forgotten. Give ten grains in the course of the well day, and from fifteen to twenty grains, in the six hours previous to the expected attack, on the day of the paroxysm.



## PROTRACTED CASES OF BILIOUS FEVER.

In this class, I include all cases which continue longer than eleven days. This may occur, in any of the forms of which I have been speaking; but is most likely to happen in the milder forms. I think I have observed it oftenest in children, in which delirium had been a leading symptom. I have also observed it to follow cases in which medicines had operated excessively, not from the quantity given, but owing to the peculiarity of the case. It occurs most frequently late in the season, and I have seen it affect several persons of the same family, at the same time.

When bilious fever has continued beyond the eleventh day, it is uncertain in its course. It no longer presents the violent paroxysms of its earlier stage; and being attended with great debility, dryness of the tongue, and delirium, has been improperly called typhus. The symptoms in different cases, vary beyond description, and cannot all be set forth in books. There are yet certain resemblances, which, taken in connexion with the original attack, sufficiently identify the disease.

The protracted bilious fever, is not only known from its being a mere continuance of a fever of that kind, but that it is still a fever of paroxysms. This sufficiently distinguishes it from typhus, for which it is so often taken. These paroxysms, it is true, are less marked, than in the outset of the disease, and there is seldom a chill to mark the fever days. Still there is a better and a worse day; and sometimes two or three days of very slight, and one day of severe fever. The patient, in a few instances, becomes sallow, swollen, and dropsical; but generally pale and lean, with tongue dry and red, or coated with a brownish fur.

These cases often continue to the end of the third week, without producing any visible local disorder; but when this term is reached, the case becomes more inflammatory; with cough, pain in the breast or side, enlarged and painful spleen, or perhaps swelling, or rising, at the angles of the jaws. The inflammation and suppuration of the liver, so common in the East, I have never witnessed.

*Treatment.* Some of the ablest writers of the present day, will say, treat all these cases in the same way. They will tell you that quinine is the great specific of bilious fever, from first to last. Give it in the paroxysm, give it in the interval, give it to check dropsy arising from this cause, and give it to remove swelling and inflammation from the liver and spleen.

I have already suggested doubts of the benefit, of this sweeping manner of using a great remedy. My opinion is, that these cases require, each for itself, a particular investigation. Quinine is the great specific for paroxysms of fever. While there are chills, or if without chills, there are by turns a high fever, and intervals or remissions; I do not doubt the great advantage of giving quinine, in these intervals or remissions. How long it shall be continued, or to what amount given, are unsettled questions. I think from ten to fifteen grains, a day, given in doses of two or three grains, hourly, till the desired quantity is taken, will be a sufficiently liberal use of this remedy. This use of quinine may be made, when the fever has lasted more than eleven days; although it may have been tried during the earlier and more violent part of the disease. I would so use it, for four or five days; but if, with no amendment, I would hesitate to press it farther.

But there are other remedies besides quinine, which are of great use in these cases. The first of these, which I shall mention, is cold water. This is not requisite at all times, or even every day; but when there is a considerable rise of fever, whether preceded by chill or not, the affusion of cold water, on the extremities, or extensively on the body, if there is great heat, will be of essential benefit. This remedy, with briskly moved cool air, should be continued till the pulse is sufficiently reduced, or till the patient will not willingly bear its longer continuance. This will seldom require more than half an hour; but should the remedy be suspended, and the heat, pain, and restlessness return, it may be repeated.

In the application of cold water to the surface, it has been thought necessary to suspend it, if a roughness of the skin, resembling the skin of a goose, appears. This has been the more insisted on, where the patient shuddered at the application. This rule is by no means universal—oftener wrong than right. This shuddering at the application of cold water, is frequent in the most inflammatory cases, and it is in these the remedy is of most service. It may call for some caution in the mode of administering the remedy—the first water applied may, beneficially, be warmed to seventy or eighty degrees; or it may be cautiously applied, first to the hands and face, and then by degrees to other parts; but when it has been for some time continued, the shuddering and roughness of the skin will disappear, and the remedy become as grateful as in other cases. The remedy is called for to reduce heat, allay thirst,

and to moderate the circulation, and should not be lightly given up.

Three years ago, I was called to a distant patient, where I arrived at nine o'clock at night. She had a light chill in the evening, and had, at the rise of fever, rather increased in her shivering and complaint of cold. Warm teas and opiates had been given, and she was covered with, I know not how much bed-clothing. She had been ill for many days, had a rapid pulse, was very much prostrated, and bathed in a profuse perspiration. On introducing my hand under the cover, I felt a high degree of fever heat; but on withdrawing her hand into the open air, it soon became cool and dry, with the characteristic roughness along the back of the arm. Such was her prostration and rapidity of pulse, that she could not be thought otherwise than in imminent danger.

My mind was in a moment made up, to try the affusion of cold water; a remedy which can seldom do harm, where a great degree of extra heat is present. I called for tepid water and applied it, with my hands, to the face and hands, ordering at the same time a brisk current of air from fans. In a few minutes, the water was made cooler, and the cover lessened. In ten minutes, the coldest water became agreeable; and in half an hour, by the most extensive use of this remedy, my patient seemed like one raised from the point of death. Not an unpleasant symptom occurred afterwards.

Calomel is not to be forgotten in these cases. Four or five grains, given every second night, and allowed to operate once or twice the next day, will generally be sufficient; but if the case proves obstinate, give three or four grains, daily, till salivation comes on.

Where the liver, or spleen is acutely inflamed, frequent and small bleedings have seemed to me very serviceable. With these I have combined the use of antimonial powders, as follows: Take of tartar emetic two grains, nitre one drachm; rub together and divide into twelve powders. Of these, give one every two or three hours during the fever; but not while giving quinine. Caution is also necessary, that the operation of these powders shall be suspended, or checked with laudanum, if they operate on the bowels.

#### DISORDERS ARISING FROM BILIOUS FEVER.

Besides the intermittents, which sometimes follow attacks of bilious fever; there are disorders exceedingly important to be understood, and often dangerous, to those who have sur-

vived the violent stage of the disease. These disorders, so far as I have observed them, affect chiefly, the liver, spleen and intestinal canal. However violent the disease may seem to act on the brain and nerves, the lungs, or the heart and arteries, these organs are but little subject to permanent, or fatal disorders, from bilious fever. But on the liver, spleen and intestines, its action is more fatal; and in many cases where there have been recoveries, these organs remain diseased, for an uncertain time.

The disorder of the spleen is common, after recovery from fever. This organ seems to be always excited, and distended in the paroxysms of fever. It is a common seat of pain, and is frequently so enlarged as to be plainly felt with the hand, before the case has passed the second paroxysm. This enlargement, when kept within certain limits, seems not to increase the violence of the disease, and its termination is as early, and as safe and regular, as in other cases. But the soft substance of the spleen, seems, not always capable of resisting the violence, with which the blood is thrown into it. Disorganization and inflammation follow; and although the bilious fever ceases its paroxysms, in seven or nine days, a light inflammatory fever, with great enlargement and tenderness of the spleen, continues. The patient rises from his bed, but not to enjoy health, or to long continue, free from danger.

The liver is frequently affected at the same time, and nearly in the same manner, with the spleen. Pain and enlargement affect both; and inflammation and fever become more permanent. The action of the liver is more conspicuous. Sometimes indeed it seems inactive or torpid; but generally its activity is evidenced in the copious discharges of bile from the stomach and bowels. In other cases the bile is not seen discharged in this manner, but flows out into the blood, tinged with its saffron hue, the eyes, the skin, and all the secretions of the system, especially the perspiration and urine. To these obvious symptoms follow, low inflammatory fever, tenderness and pain of the liver, with disorders of the stomach, headache, &c.

In a few instances, I have seen bilious fever terminate in dysentery, with the ordinary inflammatory symptoms of this complaint. These cases are rare, and have, in my hands, yielded to the common remedies for dysentery. A more common, and much more fatal termination, is a diarrhoea, with large bilious discharges, accompanied with fever and great thirst. In these cases, the fever seems to come on in the eve-



ning, and to terminate in the latter part of the night, by copious discharges of bile, with crude, indigested matters. In the morning, the patient, pale and languid, has less fever, but a full and bounding pulse, and rises from bed with a keen appetite for food. Such cases, at first, excite but little alarm, but they are exceedingly unmanageable and dangerous.

*Treatment.* I have already given an account of the treatment of bilious fever, so long as it retains its character of paroxysms and remissions. While these symptoms continue, it is conceded that a successful treatment must be founded on quinine. In the cases now under consideration, this great remedy loses its place, or at least, its pre-eminence.

My mode of treating an enlargement of the spleen, when attended with light fever and disordered digestion, is to apply a blister over the inflamed organ, and give calomel, in doses of three grains, daily, till a slight salivation ensues. By this time the blister will be healed, and I order tincture of iodyne, applied over the spleen with a feather, but not continued more than two or three minutes, so as to avoid blistering the part. Let this remedy be applied, from day to day, so as to keep up some irritation for a week or ten days. If the disease does not subside, give the tincture of iodyne internally—from ten to twenty drops, twice a day in water. Continue this till a reduction of the swelling is accomplished, or till the remedy produces tremor, prostration of strength, or inflammation of the mouth or throat. The swelling of the spleen will seldom resist these remedies; but should it do so, they are, for a time, to be discontinued. Low diet, cupping, leeching, and, in the event of much inflammation, bloodletting, will be useful, in addition to the above remedies.

Inflammation of the liver, seldom in this country, tends to suppuration, or the formation of matter. Never having seen this result, I should not readily suspect its approach. Nevertheless, I regard bloodletting, indispensable, in these inflammations of the liver. I prefer the abstraction of small quantities, at short intervals—half a pint once or twice a week. At the same time, give calomel, from four to ten grains a day, till a salivation appears. If the attending fever is high, and the pain in the right side, which characterises the disease, is severe, give antimonial mixture in doses, not to operate too actively, and apply blisters or leeches over the region of the liver. By a vigorous use of these remedies, inflammation of the liver will seldom fail to give way, in a week or two.

The bilious diarrhœa which follows bilious fever, is far

more formidable than inflammation of the spleen or liver. This is a chronic disease, continuing, in some cases, for months. With very poor success, I have tried opium and calomel, in all the forms I thought adapted to the particular symptoms of each case, and have come to the conclusion, that they are not the best remedies for these cases. I advise bloodletting, a very spare diet, light cooling drinks, and blistering over the liver. If the stomach seemed oppressed after eating, I should advise a few grains of calomel and opium, if any of the above remedies seemed to operate on the bowels, producing excessive discharges. These remedies might be varied, and used, from time to time, while the case continued.

In all these cases, there is great doubt whether there is not yet a reasonable hope from the use of quinine. I think the trials I have made of it have not been very beneficial: but if I again meet with these remains of high bilious fever, I shall try this remedy once more. I shall choose the time of least fever, and give quinine in doses of ten grains, once or twice a day, as the case may seem to allow. Laudanum may be combined, if necessary, and I should advise it where the case puts on an inflammatory or painful type. These remedies are not to be tried to the exclusion of those above directed. They may be used in harmony, and as auxiliaries; but require the best judgement of an experienced physician, to ensure their beneficial administration.

Change of climate is not to be forgotten, in the list of remedies, for these imperfectly cured cases of bilious fever. The patient should, if possible, leave the district of malarious diseases. His remedies may be continued, if circumstances admit of it, but let nothing detain him long in a sickly atmosphere. I think a higher, is of more consequence than a cooler region. The mountain regions of Virginia, North Carolina, Georgia and Tennessee, are celebrated for the restoration of health to these invalids. Their watering places need not be mentioned. But I have observed, in diseases of the liver and spleen, that the mountain limestone water seemed to have a specific power. I have witnessed the relief afforded to these cases, by a temporary residence in the limestone region of East Tennessee, and in the mountain region of Georgia. In some of these cases, the limestone water, at first, operates as a cathartic; but carefully used, it proves the most efficient remedy, and, in a few weeks, enables the sallow and cadaverous patient to return to his unhealthy residence, with renewed powers. Care should be taken to find proper water in a healthy place.

*Prognosis.* The judgement formed of the probable result of a disease, is termed a prognosis. This judgement, proverbially fallible, ought not, in dangerous cases, to be withheld from our patients, or their friends. When it is unfavorable, it should not be expressed with too much confidence; for the pain it inflicts is not warranted, except the result is nearly certain.

This essay is already lengthy; but long as it is, it contains but a condensed view of my own experience in bilious fever. The symptoms which signify the presence of danger, will be, in part, drawn from cases I have not particularly described.

Danger, in fever, arises from the disease, or fatal injury, of vital organs. This, I am apprised, cannot always be proved; but, in bilious fever, I have observed that the danger is greatest, where the liver, spleen, stomach and intestines, are the manifest seats of the disease. These are the organs which I think most affected, in this disease. The brain and lungs, equally important to life, are seldom the seat of the fatal action of bilious fever.

These opinions are drawn from experience. Great pain in the liver, spleen, stomach or intestines, is always an alarming symptom. It is worse if the case is attended with unequal distribution of heat; or if there is great heat about the abdomen and chest, and cool extremities. These pains signify the same danger if they last only during the paroxysm of fever, or for a longer time. Vomiting is not a symptom of danger; but a belching up of the fluid contents of the stomach, especially bile, is a signal of great danger. Hickup is also a dangerous symptom, when it occurs at the close of the disease, in an exhausted patient. The brain and lungs, on the contrary, seem seldom to be affected with fatal violence. The lungs are seldom affected with great pain; but, however the breathing may be affected, in this disease, it seems not to affect life. Equally favorable is the prognosis from affections of the brain. Great pain in the head, if it even produces delirium, is no just cause of alarm; and coma, resembling apoplexy, is frequently met with, in cases attended with but little danger. Pains in the back and limbs, so far from being dangerous, are noticed by Dr. Rush, as symptoms promising recovery.

A sudden coldness of the body, occurring after the chill, is dangerous. These cases have, inconsistently enough, been termed the algid, or cold form of fever. They denote a giving way of the powers of nature, before the force of disease. They are attended with a moist surface, and marble coldness of the flesh; sometimes with wonderful calmness of the mind,

and freedom from pain ; but, in other cases, with intolerable thirst, great restlessness, and complaint of burning heat. The patient, with pale, moist tongue, haggard countenance, and, flesh as cold as marble, demands cold drink, cold air, and cold affusions of water, over his body and limbs. His time is at hand.

A full and bounding pulse is not a just cause of alarm in bilious fever. But when convulsions occur with such a pulse, the case is sometimes suddenly changed. If vigorous measures are taken to reduce the circulation, a favorable result may be looked for, unless the convulsions attack the muscles of one side only. When this occurs, there is no hope—I think that in such cases, there has already occurred a fatal injury of the brain. A pulse, feeble and compressed, from the first, or in each paroxysm, with pale and purplish face and lips, attends the congestive fever; a form of this disease always dangerous. Great heat about the body, is no proof that nature will rally and throw off the disease.

These remarks may give to inexperience, some confidence, in forming a judgement of the probable result of a case of fever; but an opinion should not be hastily formed.

#### GENERAL OBSERVATIONS.

A few general remarks, and I have done with the treatment of bilious fever.

It is, in this country, very important that the bilious fever should be known from all other diseases. This is so far from being the case, that I scarcely pass a year, without witnessing manifest mistakes on this head. To avoid these, let the physician bear it in mind—

1. That bilious fever is a disease of summer and autumn.—In temperate climates, it never originates in winter or spring; and if, in these seasons, persons are attacked with fever, it is never a fever of this class.

2. The symptoms of bilious fever, are beyond measure, various. They have a single feature which is uniform—they are attended with *paroxysms and remissions*.

3. In a very great majority of cases, the paroxysms are on alternate days, and are composed of a slight chill, followed by a burning fever. The next, is a day of remission, with a wonderful exemption from all appearance of serious indisposition.

4. If the disease is without remissions, and has occurred in a hot climate, in the heat of summer, it may prove a yellow fever.



5. Never regard the discharge of bile, by vomiting or stool, as a reason for calling a disease a bilious fever. This is a mistake, as fatal as it is common.

Left to itself, bilious fever has a beginning, a middle, and an end—commonly it has reached its highest point, by the third or fifth day, and by the seventh or ninth, comes to its termination ; but many cases continue to the end of the third week.

Each paroxysm has also, its beginning, its highest point, and its termination. These succeed each other with wonderful exactness, as to time and symptoms ; and contend, like an antagonist, till they are victors or vanquished.

Doctor Rush opened his lectures on this disease with the startling question—“ *Do we ever cure a fever?*” It is now but little over thirty years, since I heard this, from the lips of him, who was then regarded as first in talents, and first in experience, in his profession. It contains, in six words, the humiliating acknowledgement, that the science of medicine had not arrested the steady march of bilious fever, through the stages, and to the termination, mentioned above. Thirty years have enabled us to answer Doctor Rush’s enquiry ! *Yes, we do often cure fever!* Not only do we, by well directed medicines, ward off the blow of death from our patients ; but, in thousands of instances, cut short, in its full career, the most fatal forms of bilious fever ! This triumph over the great destroyer of our race, is the great achievement of medicine in this age. Let the physician then, bear it in mind, that he is, in a very great degree, responsible for the lives of his patients, in bilious fever.

The remedies for this disease are few ; but they are powerful. Every body knows them ; but no one has more than sufficient skill to administer them properly.

The first object in the paroxysm, is to lessen the heat, and reduce the violence of the circulation of the blood. The first object is obtained by the application of cold water, and free, cool air. The next, by bloodletting, emetics, and cathartics. It should be borne in mind, that bloodletting is the only one of these, which it is in our power to use, at the exact time, and to the exact extent, that we should desire. This won for it the trumpet, of the eloquent Doctor Rush. He treated every paroxysm as a new case ; and prescribed, as if to regulate the circulation for the moment, was to destroy the disease. Experience taught me to rely less on this remedy. Reason suggested, that if used at all, bloodletting should be performed on the rising paroxysm, to lessen the dangerous violence of the circulation. This, in my hands, it often effected ; but the time

at which it should be performed, could not well be left to the judgment of another; and the physician, with many patients on hand, could not attend, at the moment this operation was called for. It became important to find a substitute; and this has been found in nitre and tartar emetic, given as an active emetic, or in a more gradual manner, according to circumstances. This remedy I regard as fully equal to the lancet in efficacy; and, in many respects, far superior to it. It may be safely left with a nurse, to be given at the rise of fever. Its active operation is nearly certain, and the limit to which it should be carried, can be regulated by the degree of fever present. It is, in my opinion, so fully capable of controlling the circulation, that the lancet can hardly ever be requisite, where it is given. These are the remedies for lessening the violence of the paroxysm of fever. They are few, but ample. They are to be used according to the necessity of the case, gradually reducing their quantity and force, as the case may decline, from the deepest coma to a slight paroxysm, in a case of long standing, or low grade.

Auxiliary to these remedies, there are two; calomel and opium. The last mentioned is especially important, when, in the decline of the paroxysm, emetic or cathartic medicines operate excessively. In these cases, it is to be given in full doses, repeated till the action of the medicine is arrested. But in other cases, where the fever has passed its highest point, and there is a dry skin, restlessness, thirst and other symptoms of irritation, give opium; especially its best preparation, laudanum, in a single full dose. But the use of laudanum is not restricted to the paroxysm, or its declining stage. It is given advantageously with quinine, in the interval, and in the convalescent form.

I have said that cathartics are to be used to lessen the circulation. They are decidedly inferior to the remedies above mentioned. This inferiority, is chiefly because of their uncertainty of operation. They cannot be made to operate at the pleasure of the physician; and greatly did I feel the force of this evil, when early in my practice, I relied more on cathartics for depletion. They are still important remedies. Calomel, by far the best, is not a cathartic only. Its operation on the liver is highly beneficial. I have said that the presence of bile in the discharges, proves nothing of the nature or character of a fever. But in bilious fever, a free discharge of bile in the early stage, is always salutary. Calomel, when operating as a cathartic, seldom fails to produce bilious discharges; and,

in this way, it is highly beneficial in bilious fever. The degree of its superiority over other cathartics, is such, that I willingly award to it a special curative influence, over this disease. But, it is with but little regard to its depleting, or reducing power, that I give calomel. While I give it the highest place in value, I assign it the lowest as a means of reducing the circulation. I give it at any stage of the disease, whether in the paroxysm or interval; and while I rely on it, for the most efficient and satisfactory remedy, to discharge the offending contents of the bowels, I think its operation, even in the hour of a dangerous crisis, is incomparably safer, than any other. Yet I am no hero in the administration of calomel.—Ten grains is my common dose; and few of my patients, in an eight day fever, take more than twenty or thirty grains. I will not salivate one, in one hundred cases.

With regard to other cathartics, I have but little to say. I rely on them chiefly to keep up a reasonable action on the bowels. If calomel is desired to operate on the day of the interval of fever, castor oil is the best auxiliary. A small dose of it should be given from four to six hours, after the calomel. But, if this operation is desired during the paroxysm, give seidlitz powders, or antimonial mixture. Where the patient is robust, and the medicine desired to be active, give cream tartar and jalap, in place of seidlitz powders.

In the administration of these remedies, let the physician recollect, that a bilious fever is a disease, not of one, but many paroxysms. He is not therefore to take hold of the pulse, and fancy that its reduction to the healthy standard, is all he has to do. He is probably to witness the pulse, in a few hours, sink far below that standard, and if not controlled, return, like a tide, to overwhelm his patient. He is to study the case before him; view patiently the progress it has made, and scan the ground it has yet to occupy. He will then be prepared to offer his remedy, in proper time.

But the great and true remedy for bilious fever, is yet to be mentioned. The Peruvian bark and its preparations, have been long known as remedies for intermittent fever; and have been as long used or abused, in the treatment of the higher grades of this disease. The discovery of quinea has put this invaluable remedy into our hands, in a form to be used successfully. All agree in considering it the best remedy for bilious fever. The only questions are as to the time and the manner of using it, and the quantity to be given.

1. In the first place, I advise the use of sulphate of quinine,

in the interval or remission of fever. I will not write out an argument against its administration, in the paroxysm. I have tried it, and do not hesitate to say, that if there is a remission, that is the best time for the administration of this remedy. If the time of a paroxysm can be safely calculated on, the remedy should be given, so as to be in full operation, at that time.

2. In the second place, I consider quinine a remedy of durable activity; not giving way in an hour or two, but continuing for many hours. Let it be given, in broken doses, at hourly intervals, till the hour in which its action is deemed essential. This will lessen the danger of being disappointed of our remedy, if the fever rises a little earlier than was expected.

3. Thirdly, I think twenty grains of the sulphate of quinine, a sufficient quantity to be given between one paroxysm and another, of bilious fever. This may all be given on the day, or within the six hours previous to the expected attack; or, if the remissions allow of it, give ten grains a day, for two days successively. I think doses of two grains large enough; and they may be given at hourly intervals. In cases of great malignity, these doses might be increased; but I think there will not often occur a necessity for it.

The treatment here recommended, is to be adopted in the higher, and more violent grades of fever. Such fevers occur most frequently, early in the season. In some cases, especially at a later period, some patients seem unable to bear the active remedies mentioned. I have seen jalap, or antimonial powder, operate like a cholera morbus, and threaten the life of the patient. For fear of meeting these cases, let every patient, in bilious fever, have in his room, opium or laudanum. If his remedies, or his disease produce the excessive discharges I have mentioned, give laudanum to arrest it without delay.

The active and depleting remedies used in this disease, are exceedingly useful in lessening its force, and hindering the injury of important organs, which so often remain diseased for a long time. I think I can say from experience, that relapses, and chronic diseases of the spleen and liver, are more liable to happen where the cure has been attempted with quinine alone. Let these remedies for evacuating the vicious contents of the bowels, and moderating the fever, be still adhered to. Use them in moderation, but do not forget, that no extent to which they can be carried, in any one paroxysm, can be expected to terminate the disease. On the contrary, their excessive action, especially on the days of remission, are hurtful. And



let the practitioner still remember that when the disease has passed its highest point, and the patient has borne it seven or eight days, he neither requires, nor can well bear, active depletion.

Quinine, on the contrary, is to be given as a specific, in this disease. It is to be given when the fever is lowest; but in congestive cases, where the remissions and exacerbations are less noticed, it is to be pressed the more. The length of time, to which its use may be extended, cannot well be defined.—Ten grains a day may be taken, for many successive days.—Twenty or thirty grains a day, will, in a few days, produce great prostration. It is a mistake to call quinine a tonic.

#### RECAPITULATION OF REMEDIES.

In the first place, it is to be borne in mind, that bilious fever is a disease of paroxysms and remissions, and that in different cases, the symptoms and the remedies, differ as widely as can well be conceived. It is therefore necessary to be watchful of the symptoms and stage of the disease, and use the remedies as they are advised. The cases most frequently met with, are of a medium grade, and can be treated with entire success. They are characterised, by a light chill, followed by a high fever, with full pulse, flushed face, restlessness, pain in the head, back, and limbs, with nausea or vomiting; during the chill, and sometimes through the paroxysm. The fever declines, or goes nearly off, and for some hours the patient seems almost well. I have pointed out the remedies which I use, in each day of such an attack of fever, and advise them with such variation as the case may require.

1. *Remedies for the first day of bilious fever.* It is seldom that a remedy is demanded by a patient, on the first day of the attack. The light fever, which frequently comes on at night, without any chill, is disregarded. But if the symptoms are stronger, and the fever considerable, ten grains of calomel should be given without delay. Six hours afterwards, or early the next morning, give seidlitz powders, one every hour, till the bowels are moved.

2. *Second day.* The calomel which has been advised for the first day, may, if it has been neglected, be given on the second. But if too much time has elapsed, to allow of its operating, before the expected rise of the fever, let no seidlitz powder or castor oil follow it, but give quinine. Divide ten grains of quinine into four doses—commence in the forenoon, and

give one hourly till the four are taken. Nothing more is to be given till the next day.

3. *Third day.* Recollect the manner in which the days are counted in this disease. If the attack is on Sunday, or Sunday night, the third day is Tuesday. This is the day, on which a powerful attack will happen, and it will come on with more or less chill. But the morning of the third day presents an opportunity, in some cases, of a profitable use of quinine. If the fever is off, or nearly so, at four o'clock in the morning, or later, commence with quinine, and give two grains hourly till ten or twelve grains are administered. Give nothing more till the next fever has risen.

As soon as the chill has passed off, and the fever is found to be high, take two drachms of nitre, and two grains of tartar emetic, and mix them in half a pint of water. Give a table spoonful of this mixture every half hour, if you desire it to operate as a powerful emetic; but if you wish a milder operation, give it at longer intervals, say, from one to two or three hours. This is a powerful remedy, and always to be watched in its operation. If it proves too violent, and the patient seems to fail under it, check it with laudanum, from twenty to sixty drops, according to circumstances. If the patient is delicate, and has, on former occasions been found to sink under drastic medicines, do not use the tartar emetic, but in its place put thirty grains of ipecac. This will form a mixture of great power, and should be used especially with infant patients.—The emetic mixture should be continued through the fever, in such quantity as can be borne without too much vomiting, or till it operates as a cathartic.

If the fever has proved violent, or the medicine has operated freely as a cathartic, give laudanum. Where the fever mixture operates several times as a cathartic, and the fever is on the decline, a powerful dose of laudanum should be administered. But if the paroxysm has been violent, the laudanum is by no means to be omitted, whether the medicine has operated as a cathartic or not. Give from thirty, to sixty, or eighty drops according to circumstances. If there is a charm in medicine, it will be acknowledged by the patient, who has struggled for hours with a violent paroxysm of fever, and on its decline, takes a full dose of laudanum.

During this paroxysm of fever, the free administration of cold water and cool air is allowable. Where there is great heat, a free affusion of cold water may be kept up for hours together if necessary.

4. *Fourth day.* This day, if the attack was on Sunday, will be Wednesday. It is a day of remission, and every way suited to the administration of quinine. From ten to twenty grains may be given in the course of the day. Commence in the morning, and give two grains hourly, till the quantity intended to be given, is administered. In common cases I think ten grains a sufficient quantity, but if the strength of the patient has failed greatly in the previous paroxysm, I should enlarge the quantity to sixteen or twenty grains, according to the opinion I had of the case. The night of the fourth day, will be calm and comfortable, if the disease is already subdued, but if the next day is to appear with violent symptoms, there will be no rest for the patient on the fourth night. Leave with him a dose of calomel, say ten or fifteen grains, and if he cannot rest, or has fever at ten o'clock at night, let him take the calomel.

5. *Fifth day.* This is a day of danger in violent cases.—Begin early with quinine. If the fever of the previous night subsides, begin at four o'clock in the morning—if there is too much fever at that hour, wait till it gets lower, and it will hardly fail to do so in two or three hours. As soon as this remedy can be given without the presence of too much fever, give doses of two or three grains every hour, till from twelve to twenty grains are given. The quantity to be given, should be larger as the patient may have been more prostrated in the fever of the third day.

But whether the quinine is administered or not, a light chill, and violent fever, may be expected; and if it occurs during the administration of the quinine, stop that remedy at once.—As soon as the heat is generally diffused, and the purple hue and cold fingers of the chill, have gone off, begin with the antimonial mixture. Take two drachms of nitre, and two grains of tartar emetic, and dissolve them in half a pint of water.—Give a table spoonful every half hour for an emetic, or once in one or two hours to produce a lighter effect. If the patient is strong, and has not taken much active medicine, give it to operate actively; and if the fever continues five or six hours after the vomiting ceases, begin again, and give it in less doses at longer intervals. This fever of the fifth day, is to be contended against to the last. A still stronger remedy will be made, by taking twenty grains of calomel, one drachm of nitre, and two grains of tartar emetic, rubbing all together, and dividing the whole into eight powders. Give one of these powders every two hours, till they operate actively. The heat is, at the

same time, to be kept down by the most effective application of cold air and cold water. These remedies will be as grateful as they are valuable. These are the most active remedies which I use in keeping down the violence of fever, on this, its highest day. They are to be used according to the strength of the patient, and violence of the disease. They are to be pressed hard on the rise, and lightly on the decline, of the fever; and if there is doubt of the ability of the patient to bear these remedies, leave out or lessen the proportion of tartar emetic. If the discharges, by vomiting or by stool, are copious, stop this remedy at once.

And now at the close of the paroxysm of the fifth day, do not forget to give a full dose of laudanum or morphine. If the case is alarming, and the patient seems to have more to encounter than he can bear, give a tea spoonful of laudanum at a dose. If the case is lighter, give less, even twenty or thirty drops. This remedy ought not to be given till the fever is manifestly on the decline: commonly it will be evening before it is demanded; but if the medicines operate very actively, especially, if they produce cramp and pain, this remedy may be given earlier.—During the administration of these powerful remedies, the patient is to be closely watched, and if his strength seems to fail, give laudanum to check the operation of the remedies, and brandy and other stimulants should they seem necessary. But with common prudence, these measures will be uncalled for.—The treatment of the first five days of bilious fever, is a guide to all the days which may succeed. The same remedies, under the same circumstances, will be required; and it is only necessary, to be guarded against giving remedies which are too active, when the strength of the patient declines. As the disease approaches a close, the tartar emetic, calomel, nitre, and other depleting remedies, will be less called for; but the quinine, laudanum, and brandy, will be more required. I will only say, that the—

6. *Sixth day*, Requires the same treatment as the fourth; but it is to be recollected, that now the disease ought to give way, and evacnants should be, sparingly, if at all used.

7. *Seventh day*. If the fever returns on this day, it will be high, and may be dangerous, although a patient who has lived to the seventh day, ought not to die of bilious fever. But if the fever proves high, use the remedies recommended on the fifth day. Only give them with less activity, quit them earlier, and by no means forget the great remedy, laudanum, at the decline of the paroxysm. On this, seventh day, tartar emet-



ic will hardly be necessary, but a free use of cold affusion will come in very appropriately. More watchfulness over the strength of the patient, will be necessary on this day. A rapid crisis may throw him into a cold perspiration, and require the strongest doses of laudanum and brandy for his support.— If in such an extremity, a profuse perspiration continues after the use of laudanum and brandy, let the skin be rubbed dry, and the warmth kept up in every way. Sinapisms, blisters, and stimulating liniments, have been much used at this period of fever. A bath of pepper tea, followed by dry friction, is, in my opinion, the best treatment.

8. *Eighth day.* The remedies of the fourth day, are good for the eighth. They are to be used with a lessened force, according to the period of the disease.

9. *Ninth day.* This day resembles the seventh; and, in times past, was regarded as a great crisis. If the disease has been properly treated, it will hardly be felt on the ninth day. But if the fever comes on, use in moderation the remedies recommended on the seventh.

It seems useless to say more, on the remedies for this disease, when its course is regular. The paroxysms are not regular after the eleventh day.

But there are other forms of bilious fever, and it is our next object to point out the remedies, in some of these.

1. *Congestive fever.* This has been called an obscure, or illy defined state of the system. It is marked by a pallid or tawny color of the face, purple nails and hands, low pulse, and sometimes agonizing pains, and distress about the stomach and bowels. These symptoms occur in the middle and highest stage of the disease.

These symptoms are alarming, on their very face. Give opium, three grains, and calomel fifteen or twenty grains, without delay. If the extremities are cold, use warmth, by means of hot bricks, and if the symptoms continue, apply mustard, or cayenne pepper, extensively to the skin. If these symptoms continue for many hours, give camphor and opium.— Take spirit of camphor and laudanum in equal parts, and mix them in a vial. Give thirty drops of this, from time to time. By these remedies, ease and quiet will be obtained, and the patient pass on to a remission on the next day. The next remedy is quinine. Of late, it is recommended without measure, or regard to time. I recommend it with more deliberation, and in less quantity. If the congestive symptoms appear on the third day, I give quinine on the fourth, and afterwards

in the same manner, as in other cases. Let the remedy be given with great freedom. Take thirty grains of quinine, and make it into eight pills or doses. Give one hourly, till all are taken. If the symptoms of congestion appear again, give the opium and calomel again; and on the next day if a free operation from the calomel does not take place, give castor oil, and follow with laudanum, if there is great weakness. But do not lose a day in giving quinine. If there is a morning remission, on the worst day, give quinine in the morning, and on the next day, give of this remedy freely.

Quinine and laudanum are the great remedies for congestive fever.

2. *Bilious fever with Cholera.* When bilious fever is attended with the symptoms of cholera morbus, and on the rise of fever, there are copious discharges from the stomach by vomiting, no attempt is to be made to arrest these symptoms, on their first occurrence. The disease is to be allowed its course, till thorough and copious evacuations have taken place. This will commonly take place in three or four hours, by which time the patient will be very much exhausted. At this time a full dose of laudanum should be given; from sixty drops to a tea spoonful. This will probably arrest the vomiting, and suppress the discharges from the bowels. But if, in the course of two hours, the patient obtains no relief, the laudanum in small doses is to be repeated. If the prostration is extreme, and appears to be dangerous, brandy is to be added, with sinapisms over the pit of the stomach. These remedies will almost certainly bring the disease to a favorable remission. The patient will probably pass the night in comfort, and on the next morning be found a great deal better. He is now in a favorable state for the use of quinine, and should take a pill, containing two grains, every hour, till six or eight have been taken. Every paroxysm is to be treated in the same way; no remedy beside the quinine and the laudanum, will be required; the case will probably terminate in five or seven days, and the recovery will be perfect.

3. *Bilious fever with Coma.* Recollect that coma is a state of profound sleep, from which the patient can scarcely be aroused. When this state occurs on the third, or fifth day of fever, the patient should be bled to the extent of sixteen ounces. This should be done in the rising stage of the fever, or it had better be omitted. Where I have thought such cases not very dangerous, I have omitted the bleeding altogether. But whether the bleeding has been practised or not, a free and ex-

tensive application of cold water should be made. The patient should be placed on a cot, or matrass, exposed freely to the air, and cold water constantly applied over the body and extremities, till the coma begins to pass off. I have seen patients aroused by these means from the deepest coma, in half an hour; but should it require a greater time, the use of the remedy should be persisted in. As soon as the patient is sufficiently restored, a dose of calomel, from ten to fifteen grains, is to be given. This remedy is to be followed in four or five hours, with Seidlitz powders; for it is important that a full cathartic effect should be brought about speedily. If the heat is great and the symptoms violent, the antimonial mixture may be given instead of the seidlitz powders. A table spoonful of the mixture may be given every hour or two, till it operates actively. In this way, the paroxysm of fever will be brought to a close, and if his remedies have operated very actively, a dose of laudanum should be given. The next day, he should take quinine in doses of two grains, hourly, till twelve or fifteen grains are administered. The next day, which is the period of the greater paroxysm, should be improved by the early use of quinine. Begin at four o'clock in the morning, and give from two to three grains every hour, till the quantity designed for the day is administered. In this way, the comatose state of fever is to be treated, till it is brought to a close. I have not found the disease, in this form, attended with much danger.

4. *Convulsions.* This is a very embarrassing symptom of fever. It is principally met with in children, and occurs in the cold, as well as the hot stage. Warm bathing has been much used in these cases. I think this remedy can seldom be used beneficially. It would be injurious in the hot stage, and when the convulsions take place during the chill, the hot stage is almost immediately brought on. Convulsions commonly produce coma, and require the same remedies for the removal of this symptom, which have been recommended above. But convulsions sometimes have intervals, in which it is practicable to administer remedies. When this can be done, give antimonial mixture, promptly, so as to operate as an emetic. This will probably terminate the convulsions, and the case will pass on to a regular remission. During this remission, and up to the next paroxysm, quinine is to be given in the same manner, as it is in the remissions of other forms of fever. In this manner, convulsions in bilious fever are to be treated, from period to period, till the case terminates.

5. *Gastric fever.* In these cases, bilious fever seems to attack

the stomach alone, sometimes with intolerable thirst, and the instant rejection of every thing taken in to the stomach; but in other instances, there is only an eructation, or belching up of bilious matter. These cases are exceedingly dangerous. They are to be arrested by opium, camphor, and quinine. As soon as the symptoms we have mentioned, are manifest, give from eighty, to one hundred drops of laudanum. If this does not afford relief, take of opium six grains, camphor forty grains; rub them together, and make twenty-four pills. Give one of these pills hourly, or two every two hours, till the vomiting ceases. As soon as the stomach will retain it, give quinine. This remedy, may, in these cases, be administered at the rate of about twenty grains a day. The paroxysms of the fever will not be very distinct, and the opium and camphor, and the quinine, are to be used, from day to day, till the case terminates. No emetic or cathartic should be given in these cases.

6. *Nettlerash or Urticaria*. When this symptom occurs in bilious fever, it controls the remedies which are to be used. If the oppression is great, with difficult breathing, and great irritation on the skin, give three grains of opium, and fifteen grains of calomel, at a single dose. Warm drinks, and warinth applied to the skin, are to be urged on the patient, though he be suffering with intolerable heat and thirst. He will obtain relief, as soon as a free perspiration takes place. When the paroxysm has passed, if the calomel operates of itself, give no other cathartic; but if it does not operate, give a light dose of castor oil. These cases are exceedingly distressing, but, under this mode of treatment, not dangerous. The paroxysm will subside in due time, and its return may be prevented by the use of quinine, given in the manner I have again and again pointed out.

7. *Hæmorrhage in bilious fever*. Vomiting blood, or passing by the bowels, large quantities of blood, are exciting and alarming symptoms. They admit of very little variety in practice. The affusion of cold water on the body and extremities, will be proper at first; but the great remedy is a combination of sugar of lead and opium. Take of sugar of lead six grains, opium three grains, and give the whole at once. If the disease goes on, and the discharges of blood continue, repeat the dose, or give a smaller dose of the same kind. If the patient becomes much exhausted, stop the cold bathing, and rely on the opium and sugar of lead, to the last extremity. Doubts are of late raised, as to the power of sugar of lead in



suppressing hemorrhage; but having used it in such cases as I have discribed, for many years, and never having failed in seeing the disease give way, I should not now change it for any other remedy. I never gave more than eight grains of sugar of lead, in one day, in such cases, and commonly three grains are sufficient.

When the paroxysm is over, and the next, or well day has arrived, give quinine, in the usual manner, to prevent the recurrence of the disease.

7. *Protracted cases.* By this term, I mean cases which run on beyond the eleventh day, and assume a milder form; but with no interval in which the fever is entirely off. They still, however, have their paroxysms and remissions, and are much more common in children than in grown persons. In these cases, the heat of the skin is to be kept down by the free application of cold water. This remedy, is to be continued, according to the violence of the fever, and strength of the patient. It is not to be continued too long, where there is great weakness. It may be repeated, from time to time, while the symptoms demand it. In some cases the pulse becomes very strong, and the face much flushed. In these, the antimonial mixture may be given, in small doses at long intervals, so as not to excite vomiting. It must not be forgotten that the patient is much exhausted, however hard the pulse may beat. When the antimonial mixture has been used for some hours, and the fever is on the decline, give a moderate dose of laudanum. If the bowels are costive, calomel is the best cathartic, and is to be given as often as it is thought necessary.

But, in these cases, the great remedy, quinine, is never to be lost sight of. It should be given when there is least fever, every day, or every second day, as the case may seem to admit. My plan is, to divide what quinine I intend to give in the course of the day, into four, or six doses, and give one hourly, till all are taken. Doses of two grains each, will be a common allowance. This remedy should not be pressed for many days together. Used in that way, it produces great debility, with nervous agitation. Use it a few days vigorously, and then allow time for the patient to recover from its effects.

8. *Disorders following bilious fever.* It may be observed, that bilious fever is not so apt to produce long continuing disorders, as the common ague and fever. These disorders are, however, much the same, whatever may have been the form of the fever, from which they have arisen. I think it only necessary to mention three of these disorders here. These are, inflam-

mation of the spleen, inflammation of the liver, and diarrhœa. The inflammation of the liver and spleen, when produced by bilious fever, are mere chronic inflammations of these organs. They are to be treated with grain doses of calomel, given twice, or three times a day, till a very slight salivation is brought on—antimonial mixture, given in broken doses for a few hours at a time, when the fever and heat are high, and moderate bleedings, from time to time, as the strength of the patient will bear it. Bloodletting is by far the most valuable of these remedies, and is allowable, even where there is a great degree of debility. The blood should be drawn in small quantity at a time, and repeated according to circumstances. Leeches and cupping will find their proper place in some of these cases, and blisters are often very beneficial. These remedies should not be crowded on the patient too rapidly in succession, or too many at a time. Recollect that the disorders are chronic, and must be treated for a length of time. The diarrhœa, which sometimes follows bilious fever, is a more formidable disease. It is attended with considerable fever, and this fever seems to occur in paroxysms. The discharges from the bowels seem also to occur in paroxysms; they occur principally at night, and are very copious. To arrest these discharges, give a dose of calomel and opium—two grains of opium with eight or ten grains of calomel. This remedy may become necessary, again and again, but the quantity of the calomel should be lessened, from time to time, so as not to act on the bowels as a cathartic. I have seen but little benefit in this species of diarrhœa, from the use of astringent medicines; but I have used blisters with considerable advantage. Bloodletting is sometimes a good remedy in this disorder. It may be observed, that of all the forms of diarrhœa which I have seen, this presents the strongest pulse and the hottest skin; it is truly an inflammatory disease. These symptoms induced me to try the effect of moderate bleeding, and I commend the practice to the attention of others. Calomel is not so beneficial as could be wished, in these cases.

In all the disorders which follow bilious fever, quinine has, of late, been extolled as the first remedy. I have no doubt of its great power over these disorders. I cannot say that I have had much experience of its use in these cases, for I have of late years very rarely met them. I should not hesitate, however, to give this article a fair trial, should an opportunity occur. The quinine should be so given as to make a strong impression on the system, on that part of the day in which the

patient is expected to have the least fever. Take, for instance, sixteen grains of quinine, divide it into four doses, and give one hourly till the four are taken. This may be repeated, from day to day, for three or four days. It is then to be suspended for a few days; after which if its effect has appeared to be beneficial, it may again be repeated in the same way.

And now, that I am to take leave of the subject of bilious fever, I cannot stop without a word to the remote, and secluded sufferer who may take this fatal disease, where the counsel of no physician can be obtained. I have set forth remedies for his relief in the plainest manner that I can. Common sense, and common judgement, will enable him to judge for himself, or his friends may aid him in it. He may find himself affected in a manner I have not pointed out; for the symptoms of the disease in various cases are without number. Yet there will be enough of the symptoms I have mentioned, to shew the nature of the disease. The remedies must be used according to the symptoms, and stage of the disease. Great changes happen in a few hours, by the natural course of the disorder. Learn to expect these changes, at the rise and decline of the fever, and take good notice of their times of return. Where there are regular remissions, the great remedy quinine may be safely relied on. Where these remissions are less distinct, shorter, or not to be seen, the case is in due proportion worse. Still quinine is to be used in large doses at some time every day. *Quinine is the great remedy.*

---

## INTERMITTENT FEVER.

I have attributed to the unproved substance *malaria*, the production of yellow fever, and bilious remitting fever, and have no other cause to which I can attribute intermittent fever. The facts which sustain a belief in the existence of malaria, have been, to some extent, detailed in what was said of bilious fever. They are the same in relation to intermittent fever, and need not be repeated here. It may seem strange to attribute to the same cause, the highest grade of yellow fever, and bilious fever, and the lightest forms of intermittents; but with the best view I have been enabled to take of the whole subject, I cannot do otherwise. The cause, whatever it is, seems to be most powerful, on the sea coast, of the hottest districts of tropical countries, next, in the low districts, and great fresh water river valleys of temperate climates; and it

gradually declines, and disappears as we approach the arctic circles. The fever which arises from this cause, when in its greatest force, is continued; that which arises from the next degree is remittent; and that which arises from the least, is intermittent. These forms of fever run so insensibly into each other, that it is, in many cases, impracticable to discriminate between them; but they do not differ more than the brook and the river, the bush and the tree, the child and the man. The breadth, variety and magnitude of the subject, require that it should be treated of in separate parts; but in their origin and tendency, these varieties of fevers are the same.

We have described the highest forms of malarious fever, and have witnessed their frightful symptoms and destructive course; and turn with pleasure to the mild intermittent, whose familiar acquaintance, it has been our fortune to make. Nor do we doubt finding this a field more instructive, as well as more agreeable, than that we have occupied. This will appear reasonable, when it is considered, that yellow fever is the effect of the concentrated action of the mysterious poison malaria; and that its destructive force is gathered, as it were, into a short, but fatal paroxysm. By this rapid course, its effects and tendencies are studied with less advantage. The same difficulty, in a less degree, presents itself to the student of bilious fever. But in the mild intermittent, there is nothing to hinder the most patient investigation. The disease threatens little danger, and offers ample time.

The intermittent is the true form of the malarious fever. Before this the constitution can sustain itself, and the tendency of the disease discloses itself as time rolls on. I shall be compelled to limit myself to a few remarks.

The first observation I offer, is, that intermittent, or ague and fever, never occurs, except from exposure to the poison of malaria. This is disputed by names of high authority. I adhere to it, because I believe there is no well attested example of a fever, of this type, originating in winter, or from any accidental cause. And if the cases which are adduced, must be regarded as intermittents, it is easier for me to believe that the malarious origin of such cases has been overlooked, than to give up the facts I have witnessed, tending to prove this fact. I have had before me, for thirty years, a field of facts confirming the opinion, that intermittent fever never arises from accidental causes. A great part of the country around Milledgeville, is totally free from malaria. The people who reside on these favored localities, never have chill and fever. I



know hundreds of them, and have witnessed their progress from youth to age, and can say, from my own knowledge, that they never are affected with intermittents. And I know, with equal personal knowledge, that their neighbors who are less favorably located, do not escape attacks of intermittent. Nor do these favorable and unfavorable localities, lie a great distance apart. The difference between places within two hundred yards, is sometimes very great; and I have seen it obvious on different sides of a street, in a village. The difference which I aver to exist between a place free from malaria, and another, in which it exists, though separated but a few rods, is, that in one, a majority of persons will be affected with intermittents; and in the other, not one, though a thousand persons might reside in it. This statement is no stronger than the facts I have annually witnessed warrant. They are, in my mind, conclusive; and prove that the cause of intermittent fever, is a poison in the place, or in the atmosphere, and that it is limited to certain localities.

The next remark I wish to enforce is, that intermittent fever always originates in the heat of summer or autumn. This fact establishes a closer relation between all the malarious fevers, than has heretofore been supposed to exist. The cause of the whole of them, arises only in hot weather. I know that writers describe intermittents of spring, and I have seen many such; *but these occur only in persons who have had a yellow fever, a bilious fever, or an intermittent fever, the previous year!* They are therefore not new cases, but relapses. This remark I made more than twenty years ago. Since then I have carefully noted all the intermittents of spring, which have come under my notice. They have been exclusively confined to such as have had the disease, in some form, during the previous fall or summer. I have seen two cases in which the disease recurred, after being apparently cured for eighteen months. If this fact is deemed of any consequence, let its establishment rest on future observation. Enquire of such patients, if they have not had the disease the previous year; and do not too readily credit their statement to the contrary. Many persons have, on the first enquiry, denied having had any disease of the kind; who have afterwards informed me that their memories had been at fault, and that they had, the year before, suffered a similar attack. The length of time which this poison, when once received into the system, may remain unobserved, or inactive, has not been ascertained. It is equally uncertain how long after the suspension of chills and fevers,

the disease may be renewed, and go on, as if it had not been suspended. I have seen hundreds of cases, in which the suspension had been six months; and many in which it had been eight or nine. It is uncertain whether a person, who once has intermittent fever from exposure to malaria, ever gets so free from the poison, as not to be subject to renewed attacks, from accidental causes.

The next remark I offer is, that in the highest grade of malarious fever, the chill is slight or imperceptible; but in the lowest, it becomes more conspicuous, and lengthy. It is instructive to observe the chill, scarcely perceptible in yellow fever; slight, but punctual to its time, in bilious fever; and so violent in the quartan-ague, as to be the principal object of fear to the patient. Seeing that the most violent chills, attend the cases of least danger, it has been inferred that the chill is curative, and beneficial to the patient. This may be true, in reference to the present disease; but it can seldom be beneficial to contract an ague and fever. Let him who has never had it, take care and avoid exposure to its causes.

Intermittent fever has been divided into varieties, corresponding with its periods or time of continuance, from the beginning of one paroxysm to the beginning of another. Those which recur once a day, have been called quotidians; those which return on alternate days, at a full period of forty-eight hours, tertians; and those which return, after a full period of three days, or seventy-two hours, have been termed quartans. These terms, as I have suggested, are not strictly proper; but may answer our purpose, if always used in the same sense. Common language, refusing to submit to an absurd nomenclature, is now so used as to correct these terms. A fever returning on alternate days, is termed a second day fever; and one returning after a lapse of three days, is called a third day fever, or more commonly, third day ague and fever. I shall endeavor to so use these terms as not to be misunderstood.

These are not all the terms which have been used, to signify the length of the periods of this disease. Varieties and changes of times without number have been witnessed, in different cases, and terms to correspond with these adopted. For instance, cases have occurred in which the chill has returned twice a day, twice every second day, twice two days in succession, and not on the third day—once in six days, once in eight days, once in three weeks, and finally, a case is mentioned in which the chill returned exactly once a year. These irregularities are strange and unaccounted for, but they need not

give us much concern; they require no new rule of practice, no new remedy, nor do they signify greater danger.

Many diseases make their appearance with chills; but the character of the disease which follows, soon shews that they are not intermittents. The interval of fever is so remarkable, and the punctual return of the chills so striking, that the intermittent fever is less subject to be taken for another, than almost any other disease. A great deal has been said of debility and pre-disposition, and I grant that these causes may render the attacks, of intermittents dangerous; but observation has satisfied me that neither age, sex, color nor condition, will protect from attacks of this disease. Nor are the premonitory symptoms so obvious as some have made them. On the contrary, I think a majority of original attacks come on in the highest health, without the slightest premonitory sign.

We are unable to state the time which intervenes between exposure to the cause, and the attack of intermittent. It seldom occurs in less than eight days, and more frequently remains dormant for three weeks. There are cases related, in which the poison has remained dormant for a much greater time; but I have not witnessed them. Nor can I verify the statement, that the incubation, or dormant state of this poison in the system, is shorter in proportion to the violence of the disease it gives rise to. I have witnessed two cases of fatal yellow fever, which did not come on in less than twenty days, after the patients had left the malarious districts, in which they had been contracted; and I have, more than once, made the same remark of bilious fever.

I have said that a bilious fever is a disease of paroxysms and remissions; an intermittent is composed of paroxysms and intervals, or intermissions. This peculiarity of the disease is much more conspicuous in the chill and fever, than in the bilious fever. Three distinct stages mark the progress of intermittent—the chill—the fever, or hot stage, and the intermission. These compose a whole period, and may go on in successive rounds, for an indefinite time. Left to itself, I think it commonly continues three weeks; is then suspended for eight days, and returns again. Its progress, continuance, and changes, afterwards are entirely uncertain. Six months is not an uncommon length of time for its continuance.

#### DESCRIPTION.

A fit of ague is usually ushered in by a sense of weakness and oppression at the stomach. General lassitude follows, and

a sensation of cold, as of water trickling down the back, is felt suddenly and at intervals. The breathing becomes oppressed, and general coldness, with shrunken features, pale face and cold extremities occur. Tremor comes on, and sometimes amounts to a violent shaking of the body. Great coldness is complained of, and the patient seeks warmth by any available means. Buried in clothing and surrounded by hot applications nearly burning, the patient still complains of cold. These symptoms gradually increase to a certain height, and then as gradually subside. The shaking ceases, the contraction and roughness of the surface disappear, the breathing is full and free, and fever supervenes.

There is great variety in these symptoms, in different cases. A violent headache is complained of, and nausea and vomiting are not unfrequent. The pulse, feeble and oppressed, seems to yield to the impulses around it. The coldness complained of by the patient, is more apparent than real. Shrunken, shivering, and drawn up in his bed, his purple hand is taken hold of by his physician; but is not much colder than in health. Under the clothing, especially about the body, the heat seems rather increased. The ends of the fingers and toes, the nose and tip of the ears, feel a little cold; and that is about all, which such an examination can detect. The cold stage will continue for an uncertain period; from half an hour to six hours.

The cold stage is succeeded by the hot. This is the reverse of the former. The features are turgid, the pain in the head intense, the pulse full, and great heat and restlessness come on. Thirst, which was present in the cold stage, becomes greater now; the fever increases and the agony of the sufferer is extreme.

The fever no sooner reaches its highest point, than it begins to decline. A warm dew of perspiration is seen on the forehead; the patient becomes quiet, the perspiration extends over the body and becomes profuse; sleep comes on, and the fever subsides. The patient can arise from his bed, and is restored to apparent health. The skin is now dry, and the urine, which in the chill, was pale and watery, is now high colored and muddy, and deposits a thick sediment, resembling brick dust in color. This change in the urine, I have seen mentioned as the most decisive characteristic of the disease. I think every one of its features equally characteristic and certain.

The remainder of the term of the disease, which is to last till the next chill, is spent in apparent health. But, in due



time, another chill comes on, and the same round of suffering is again to be gone through.

No phenomenon in disease has excited so much of the wonder of physicians, as the regular progress of ague and fever, through its various stages. Volumes have been written, and theories of disease, and especially theories of fever, have been founded on it. These contrary, conflicting, and inconsistent essays, have convinced me, that the phenomenon is as little understood as ever. We know nothing of the nature of the cause of intermittent fever.

A great deal has been said of the changes which intermittents undergo, in the course of their treatment. These changes, as far as I have observed them, are almost always from the graver, to the milder forms. A continued, or yellow fever, may change to a remittent or bilious, and this last, to a chill and fever. In like manner, the types of intermittent change to the milder forms; a quotidian or daily chill to one on alternate days; and this to one paroxysm in three days. A change of this kind, is an improvement in the condition of the patient. I am apprised that others have reported a different experience; and that it is the received opinion, that cases frequently begin intermittents, run into remittents, and these again, into continued or yellow fever. This opinion, I think, is erroneous. If a case commences intermittent, it continues of the same, or a milder type; and where they have been thought to change to the higher grade of fever, the case, at the outset, has been mistaken. This fact, so far as it goes, tends to strengthen the opinion, that these forms of fever are essentially different. The whole subject is veiled in obscurity.

#### TREATMENT.

It would be interesting to follow this disease in its various forms; but I think nothing further need be said, to enable the reader to recognise it, and to discriminate between it and every other disease. Nor do the changes of type, or period, materially alter the mode of treatment. Under the operation of the remedies now used, it is hardly thought possible for a person to die of ague and fever; but it may be well to remember, that a daily paroxysm of fever, twelve hours in length, is a more serious disease than a quartan ague, in which the patient passes two days out of three, without any sign of disease.

There is seldom much difficulty in arresting chills, but they are prone to return; and, on the whole, it must be acknowl-

edged, that, when it is arrested at the first trial, it is far from being certain, that the patient is cured. Still, it is proper to give remedies immediately; for the chance of escaping a relapse, is greater in proportion to the promptness, with which the disease has been arrested.

*During the cold stage.* The chill announces the attack of the first, as well as every succeeding paroxysm. During the cold stage, there is very little to be done, for good or for ill. The patient will instinctively seek a quiet and warm place; and should be allowed to enjoy it as well as he can. I do not advise any remedy during this stage of intermittent fever.

I am apprised, that many remedies have been recommended during the cold stage. I will not detain the reader with a discussion of their merits. I will only state, that I object to them all; from laudanum, camphor, cayenne pepper and alcohol, to emetics and bloodletting. The slight and transient chill of a dangerous intermittent, scarcely admits of a remedy, till it will be past, and the lengthy chill of a quartan ague, seems but to prepare the way for a *light and transient* fever. Let the comfort of the patient be provided for, by all convenient methods of supplying warmth; and there let the treatment, in the chill stage, stop.

*During the hot and sweating stage.* The treatment of the hot stage, will require some more attention. As a general rule, I advise the same rest, and attention to the comfort of the patient in the hot stage, that has been recommended in the cold. Cases of a higher grade and more danger, require a different course. It is therefore important to know the cases in which danger may be apprehended. Where there is no alarming debility, or great personal defect in the patient, no danger need be apprehended from the first paroxysm. It may therefore be allowed to go on, to its own proper termination, undisturbed. But it is always, to some extent, uncertain, during the first paroxysm, what length of time may intervene before the next; or, what grade or type the disease may assume. Writers say, that a chill occurring in the morning, gives reason to expect its return daily; a chill at noon, on alternate days; and a chill in the evening, after the lapse of three days, or seventy-two hours. Now the danger is in inverse proportion to the chill. If, therefore, the chill is violent, and especially, if it makes its first assault in the evening, no remedy, during the ensuing fever, will be required. If, on the contrary, the chill is slight, and the fever which follows it high, it gives good grounds to

apprehend, that it may turn out an attack of bilious fever ; and no time should be lost in administering a proper remedy.

I have no hesitation in the choice of a remedy, in the hot stage of a first paroxysm of fever. Take of calomel ten grains, and give it at once, in pills or powder. Then take of tartarised antimony, two grains, and nitrate of potash two drachms, and dissolve in half a pint of water. Give a table spoonful every two hours. If it operates as an emetic, stop ; and expect a full cathartic operation on the decline of the fever. Should this not occur, give a seidlitz powder, or a dose of castor oil. If the operation of the medicine is prompt, and the discharges copious, give sixty drops of laudanum ; and the paroxysm will close, with great relief and comfort to the patient. Nothing further will be necessary in this paroxysm, during the hot stage ; but the remedies may be varied to correspond with the requirements of the case. If the patient is delicate, and fears the operation of the antimonial, give the calomel alone, and close with the castor oil as above. If there is great nausea, and the patient feeble, an emetic of ipecac may be given. But, of whatever kind, or in whatever mode, the emetic or cathartic may be administered ; give, at the close, the dose of laudanum as recommended. If the pain in the head is acute, and the heat of the body great, let affusions of cold water be made to the head, face, and limbs. This may be discontinued when the laudanum is given.

It has been customary to divide the hot part of the paroxysm, into a hot, and a sweating stage. This division is useless, and in some cases, pernicious. The sweating stage is not always a mere close of the hot stage. When it is so, no remedy will be required in it. But, in many cases, the perspiration breaks out with the rise of fever, and continues, profusely, during the whole of its term. These are often paroxysms of great severity, and should be met with the effective remedies above recommended. Let it be particularly noticed, that the affusion of cold water, is as useful in these, as in any other cases.

Such is the treatment I recommend, in the first paroxysm of intermittent fever. Should it be omitted in the first, it is equally applicable to the second ; or to any succeeding paroxysm, where the strength of the patient, and violence of the disease, seem to demand active depletion.

This active treatment is, by no means, to be repeated oftener than the symptoms require, and the strength of the patient allows. It will seldom be necessary to repeat it at all, and

very rarely more than once. But when cases have continued for a great length of time, and an enlarged spleen and inflamed liver have come on, remedies of the active class are more necessary. Calomel becomes, in these cases, an important remedy. Give ten grains of it alone, at any time, and do not follow it up with any other cathartic. Let its operation be as gentle as it will, or even if it does not operate at all, give no cathartic after it. This mode of using calomel, will scarcely ever produce salivation; and has in it an efficacy not to be found in other remedies. Calomel is a great remedy in all malarious diseases.

It is in the intermission, that we have the opportunity of meeting and subduing, intermittent fever. The hot stage closes, and seems to turn over the patient, for a time, to his physician. Many remedies have been used during the intermission, with some degree of success; but they sink into insignificance, when compared with the great specific quinine. This is the great remedy for chill and fever. So fully and perfectly does it supply this great desideratum, that it is wholly unnecessary to detail a separate mode of treatment, for the several species of intermittent. Divide twenty grains of quinine into eight doses. This is a sufficient quantity to be given, between one paroxysm and another, whether they come daily, or once in two or three days. If the chill is daily, commence as soon as the fever goes off, and so divide the time and remedy, as to finish it before the next chill is expected. The chill, in these cases, is apt to come in the morning; and the medicine should be given through the night. It will answer, to begin six or eight hours before the chill, and give a dose hourly, so as to finish the twenty grains, before its time. But if the intermission is longer, commence earlier, and give the medicine at longer intervals. This is a very ample allowance of quinine for the worst cases of intermittent. It may be repeated, from time to time, till the chill is broken, and should then be suspended. Twenty grains daily of this remedy, is far from being a tonic or strengthening course. It produces, on the contrary, tremor and debility; but will, almost certainly, stop the chill, the first or second trial.

When the chill comes on alternate days, the remedy should be administered a little differently. Divide the twenty grains into eight doses as before. Commence twenty four hours before the expected chill, and give a dose, every hour, till four doses are taken. The remaining four doses may be retained, till within six hours of the attack. Then commence and give



a dose hourly, till the four are taken. The same rule holds good, where the chills come at longer intervals. Twenty-four hours are long enough for the administration of quinine before any chill, however long the interval, between one chill and another.

When the disease does not readily give way, it has long been common to give some diffusible stimulant, an hour or two before the chill. Paregoric or laudanum is the best of these, and may be given in full doses; say sixty drops of laudanum, two hours before the chill is expected. The various kinds of pepper, have been extensively used, since the publication of the Thompsonian system. I have tried them, and have not found them entitled to any preference over other, and less offensive stimulants.

Having, by these means, arrested the chills, it becomes necessary to take the best measures for hindering a relapse. These relapses are frequent, and, in some seasons, I have found them a great deal more frequent than in others. Their returns are not accidental, or always dependent on exposure to east winds, as some have supposed. They have their periods, and will return punctually, if not hindered by proper remedies. The periods at which there is reason to apprehend the return of a chill, are the eighth, fifteenth, and twenty-second days, from the last chill. These days of return, are less certain, than the regular returns of an unbroken chill; but, on a retrospect of many years' experience, I find that they are entitled to be considered the days of relapse.

The same means which will hinder the return of a chill at its regular time, will prevent the occurrence of a relapse on the eighth day. Take twenty grains of quinine, and divide it into eight doses; give four in the course of the seventh day, and four in the forenoon of the eighth. The same precaution may be used on the fourteenth and fifteenth, and on the twenty-first and twenty-second days. I have found this plan to succeed as well as when the remedy had been continued during the whole week, succeeding the last chill.

The quantity of quinine which I have recommended, has succeeded, in my hands, with few failures. I have found a less quantity ineffectual, and a larger unnecessary. Writers who have had to treat the disease in warmer climates, have found larger doses necessary; and the mild form of the disease, met in higher latitudes, has been successfully treated with half the quantity. Believing that there is some truth in these reports, I should recommend those who happen to be

attacked in a latitude lower than thirty-three degrees, to give larger doses than I have recommended; and those who find themselves in a higher latitude, to lessen the dose accordingly.

Many remedies besides these, have been recommended for the cure of chills. There is but one, which I think entitled to notice here, and that is arsenic. The arsenical solution, or Fowler's solution of the dispensatories, is the form I most approve. The dose, to an adult, is ten drops, two or three times a day. These doses may be gradually increased to twenty drops, if the chill does not give way, in four or five days. The remedy may be safely continued, for a week or more, if it produces no pain or sickness of the stomach. A dropsical swelling of the feet, is also a signal for suspending it. I have hesitated to mention this active and efficient remedy, because of its poisonous quality. Its value entitles it to a place even in a work like this. With a knowledge of its strength, it is not more dangerous than laudanum or tartar emetic. In intermittents, it has frequently succeeded where quinine has failed; and being tasteless, is as easily administered to infants, as to grown persons. Relapses are thought to be less frequent after its use, than when the disease has been checked by quinine.

Many cases of ague and fever, present themselves in persons who have enlarged spleen, inflamed liver, disordered bowels, and dyspepsia. These disorders often arise in the course of the present attack, but there are cases in which the visceral diseases are of long standing, and I have, many times, found dropsy added to this present catalogue. It is often difficult to decide on the best mode of treating these cases. My plan is, to use the means above recommended to stop the chill in the promptest manner. I have never used arsenic, where the symptoms of dropsy had occurred; but all other remedies for chill, I have used without regard to the presence of dropsy, inflammation of the liver or spleen, or disorders of the stomach or bowels. I take this course with full conviction, that the recurrence of the chills and fever, keep up, if they have not caused, all the attending disorders; and that these will be more readily disposed of, after the chills have been checked. I will add, that I have pursued this course in many instances, where the cases looked very unpromising; and am well satisfied with its results.

#### RECAPITULATION OF REMEDIES.

1. During the chill, give no active remedy, and administer

no stimulant. Let the patient be indulged in warmth and quiet.

2. During the hot and sweating stages, remedies are not always necessary. If the fever runs high, and has lasted many hours in previous paroxysms, active remedies become necessary. In such cases, give ten grains of calomel, and a table spoonful of antimonial mixture, once in two or three hours. If it proves emetic, stop the mixture; and if the patient seems much exhausted, give from thirty to sixty drops of laudanum.

3. Laudanum, or opium, is proper, not only to check excessive operation from other remedies; but to allay irritation, and bring the paroxysm to a close, by exciting a full perspiration. When the fever has got to its height, and begins to decline, give a full dose of laudanum, say sixty drops. If the case is of uncommon severity, this remedy is the more necessary. Its effect is, in a high degree, comforting and agreeable.

4. *Cold affusion.* When the fever runs high, whether there is a dry skin or a free perspiration, make free application of cold water. Use it freely, as long as the heat is very great.

5. *Quinine*, is the great remedy for intermittent fever. From ten to twenty grains is enough to prevent the recurrence of a chill. If the chill comes daily, give the remedy within six hours before it is expected. Make twenty grains of quinine into eight pills; commence six hours before the chill, and give one of these pills hourly, till all are taken. If the case is not violent, ten or fifteen grains, divided into the same number of doses, and given in the same way, will be sufficient. If the chill comes on every second, or every third day, a longer period is allowed for giving the quinine. In these cases, take twenty grains of quinine, and divide it into twelve pills. Give four of these pills in the course of the day before the expected chill, and the remaining eight, within the last six hours, as directed above. Where the chill comes only once in three days, or even at a longer period, it is not necessary to give the quinine any longer before the expected chill, than when it comes every second day. The quinine is to be given in this manner, from time to time, till the chill is broken, when it is to be laid aside. To prevent a relapse, it is prudent to give this remedy again, at the end of a week, from the date of the last chill; and in like manner, at the end of the second week, and even on the end of the third week; for these are the periods at which relapses are likely to happen. In these cases, give the remedy for a day only.

6. *Arsenic*. The arsenical solution, or Fowler's solution, as it is commonly called, is the only form of this remedy, which I advise to be given in intermittent. Ten drops, two or three times a day, are sufficient for a grown person. It may be increased, from day to day, till the dose is twenty drops, if it produces no ill effect on the stomach. This remedy is to be suspended, if it produces dropsical swelling of the legs.

7. A few hours before the chill is expected, a powerful stimulant may be given, with the hope of arresting it. A tea spoonful of laudanum, in a cup of warm tea, is probably the best. A less dose will suffice, in milder cases; and with a proper use of quinine, this will seldom be necessary.

Intermittent fever often comes on in persons who have other disorders. Dropsy, liver disease, and enlargement of the spleen, are the most common. In these cases, the removal of the chills and fevers is the first object. The quinine especially, is to be given as freely as if no such complaint was present.

---

### ERUPTIVE FEVERS—EXANTHEMATA.

Modern authors have agreed to treat under this signification, all diseases which are attended with fever, produce an eruption of the surface, originate from a specific contagion, and occur, to the same individual, but once in his life. The number of diseases of which I shall treat, under this class, is small—restricted to measles, small-pox, scarlet fever, chicken pox, and roseola. The attack of these diseases is always attended with fever, and they produce, after a given time, an eruption on the skin. This eruption is peculiar in each disease, and it is often doubtful till it appears, to what class the case belongs. Nor is it always easy to discriminate between them; scarlet fever and measles are not unfrequently mistaken for each other. There is also a disease which is still more embarrassing to the practitioner. Roseola, or rose rash, is so difficult to discriminate, that an individual case will sometimes deceive the most cautious observer. This has given rise to the many reports of persons having a second attack of measles or scarlet fever. These diseases ought therefore to be noticed closely, and care taken that no mistakes be made.



---

SMALL-POX.

This disease was unknown to the ancients. It appears to have originated about the middle of the sixth century; and it is uncertain, whether it first occurred in Egypt or in India.—The subject appears to have been treated of by the general historian, for several centuries; so that our accounts of it, are wholly inaccurate, for the first three or four centuries of its existence. Towards the tenth century, it appeared in England, having been previously the common disease in Europe for ages. Its progress since that time, has been better understood. Within twenty-five years after the discovery of America, it made its appearance in Mexico. Soon after, it appeared in other parts of the Western continent, attended with a mortality seldom witnessed in any other disease.

Few diseases have attracted more of the attention of medical men, than this. Its importance can scarcely be overrated. During the first eight centuries of its existence, its course was little impeded by the efforts of medical men, and as little attended to by the governments through whose countries it traversed. Under the general term of plague, it has been indefinitely alluded to, as having swept off one fourth, or one sixth, or one eighth part of nations; and it is not extravagant to say, that within two hundred years of our times, this dreadful scourge was regarded as the destroyer of at least one sixth part of all the human race that was born.

The treatment of this disease, till the days of Sydenham, in 1667, was, to say the least of it, exceedingly bad—the whole object of the practitioner, being apparently to throw out the greatest possible eruption, by the use of internal, and external stimulants. This great man produced a great revolution in the treatment of this disease, as well as in many others. Indeed it is hardly extravagant to say, that from the date of his writings, medical men, and medical reasoning have taken a different character.

It is scarcely less strange, that for a thousand years after the first appearance of this disease, its contagious character was not understood. Indeed, Sydenham appears to have had scarcely an idea of it; and it was left for Boerhaave, about forty years afterwards, to inform the world, that small pox was a contagious disease. It will appear almost incredible to most of my readers, to be told that even at the present day, a great

proportion of the people of Europe, believe that small-pox, like other diseases, is without any particular dependence on contagion or infection.

The great improvement in the treatment of small-pox, introduced by Sydenham, turned principally on avoiding the stimulants which had, before his day, produced such dreadful havoc. He introduced a cooling and depleting treatment; and this is perhaps the principal merit, which his mode of treatment had over that of others. But this dreadful disease was doomed to submit to more efficient means of arrest. Inoculation, introduced I believe from the East, was resorted to in Europe, and while it served to protect those who were inoculated, in a wonderful degree, gave rise to a dissemination of the contagion amongst those who refused to submit to its influence, which was truly fearful. There can be no doubt that small-pox was, a century ago, more disseminated over the earth, and more destructive to human life, than it ever was at any time before. But we have lived to see a second great revolution in the management of small-pox. Vaccination, introduced about the beginning of the present century, has almost robbed of its terrors, this once awful pestilence.

#### DESCRIPTION.

Small-pox, when taken in the natural way, may be divided into three stages. The first has been termed incubation—which commences from the time the infection is received into the body, and terminates with the appearance of the eruption on the skin. The second has been termed maturation, which lasts from the appearance of the eruption till the formation of matter or *pus* in the pustules. The third is the decline; and lasts from the state of maturation to the close of the disease.

From the exposure to the infection, to the appearance of the disease, an uncertain term, of from one to three weeks, is passed. Till the fever which precedes the eruption takes place, the patient has experienced no symptom by which he could be certainly known to have an approaching attack.—Some indeed have been known to complain of certain symptoms of faintness and sinking; but, these symptoms are not to be looked for. The disease is ushered in by a sensation of cold, with an involuntary shivering of the whole body. Nausea, dizziness, headache, pains in the back, and limbs, with more or less fever, follow. In extreme cases, vomiting, tenderness in the region of the stomach, delirium, hemorrhage

from the nose, and, in small children, convulsions are frequently met with. Death, in some cases, occurs before any eruption has made its appearance; and, in many instances, it has remained doubtful, whether the disease was really a small-pox. The eruption makes its appearance, in about forty-eight hours after the attack. This time may occur in the mildest, as well as in the most malignant cases; but the time at which the eruption occurs, is frequently considerably later—frequently extending to the third or fourth day.

The next stage, or the stage of maturation, succeeds to that of the eruption, of which we have just treated. Small points of eruption, called papulæ, appear on the face and wrists, at first pointed and easily felt above the skin, but in other respects very minute and indistinct. After a day or two, they acquire considerable hardness; and, by passing the finger over them, feel very like shot buried beneath the skin. This sensation is so unlike any other ever felt by placing the hand on the human skin, that I can compare it to no other; and having once felt it, it seems to me it should never again be mistaken for any other disease. The intensity of the attack, is judged of by the number of the pustules. The danger is in due proportion to the number of these, especially when found over the head and face. There is, therefore, no certain line of distinction between the milder, and the more malignant cases of small-pox.

These pustules are seated in the true skin, and become, each in its place, a separate centre of inflammation. In three or four days, a sort of blister appears on their surface, which, in four or five days more, is succeeded by the formation of matter or pus. Around each of these small pustules, a circle of inflammation is formed; the skin is thickened, and a depression is seen over the centre of the pock. More or less fever has thus far attended the disease; but the pustules now burst, the matter from them escapes, the fever subsides, and the patient is well. In cases still milder, the pustules dry up without the formation of matter—forming a small horny scab, which some of the older writers denominate horn pock. Such is the course and termination of an ordinary attack of small-pox.

Far more formidable is the attack of this disease, when, from the great number of the pustules, they run together, forming what has been termed the confluent small-pox. The symptoms which lead to this, are not always distinguishable from those we have described above. They are far more violent, and this perhaps may be a sufficient account of the dif-

ference. It may however be well to suggest, that where the patient is seized with great stupor, delirium, feeble pulse, cold extremities, and scattered bluish spots on the skin, which have been termed *petechia*, a confluent eruption may be reasonably feared. A great change in the whole character of the disorder is to be expected in these cases. Previous to the appearance of the eruption, the skin on the head and face becomes tumified and inflamed. The eruption, in numerous points, may be discovered, and, in four or five days, the eyes are closed by swelling—the skin over the head and face extremely tender—the glands of the neck and throat much swollen—a salivation commences, and frequent abscesses under the arms, and in the groins occur. No distinct circle of inflammation is seen around the individual pock; but, running together, they seem to constitute the whole surface of the body, especially the face, one sore. If perchance the individual is left with sense and reason, no sleep comes to his relief; but interminable restlessness, great exhaustion, rapid pulse, and all the symptoms which characterise a constitution overpowered, are present. The eruption, in these cases, often extends beyond its ordinary ground, penetrating the mouth, the nostrils, and often extending down the windpipe to the lungs. A rigid hardness of the mouth, tongue and throat, renders it difficult to swallow; and the swelling in the nostrils and about the throat, is frequently a cause of strangulation, even to the destruction of life. Nothing can be more awful than the contemplation of a human being, under this accumulation of suffering.

Considering that in the small-pox, when taken in the natural way, no preparation or selection of time is allowed, it may be expected that many individuals will be attacked by it, when laboring under other disorders, or otherwise in a state of ill health, not readily admitting of their safely entering into a conflict with a new disease. Scrofula has been most frequently alluded to by writers, as the great cause of increasing the danger of small-pox. Equally dangerous has been thought that plethora and over fulness, which is the result of excess in eating and drinking. Complicated with these disorders, small-pox frequently produces disorders that appear no way connected with its usual course. Deep seated abscesses—especially in the lungs, wide spread inflammation resembling scarlet fever or measles, and, in some cases, apparently identical with erysipelas, follow in the train of this disease. So frequent were these complications, and so difficult of discrimination did they appear, that, for ages, this disease was imper-



fectly, if at all, discriminated from measles and scarlet fever.

The third stage of small-pox, has been termed its decline.—It appears that nature has not endowed it with a power of supporting inflammation, beyond a certain term. After the formation of matter in the pustules, it appears that the patient has but to recover from the damage that has been already done him. The active force of the disease seems to be at an end.—In milder cases, about eight days after the appearance of the eruption, the pustules burst, and the cure progresses without any interruption. In worse cases, the healing of the ulceration is slow; and, in the cases which have become confluent, and, in some in which they were apparently mild, a secondary fever, as it has been called, occurs. With the disappearance of the eruption, a fever more violent than any the patient has yet experienced, takes place, and is protracted to an indefinite extent. This fever is commonly attended with the local disorders which have been alluded to—the abscess, inflammation, &c. But, in some cases, it seems to depend on causes little understood. No local disorder is manifest, and yet the fever is more violent, and more dangerous, than that which has preceded it.

The degree of danger which may attend a case of small-pox, is a matter of deep interest; and much has been said on the symptoms which indicate a favorable or unfavorable tendency. It is manifest that each individual pock, is so much to bear; and, that in proportion to their number, the danger is increased. When their number is so great, that they have not room to form individually; but run together, the disease is manifestly dangerous. When this happens over a very great portion of the surface of the body, the danger is still greater: but the symptoms of danger frequently arise before the appearance of the eruption. That prostration which produces stupor, great loss of strength, cold extremities and blueness of the surface, cannot be otherwise than exceedingly dangerous. Experience has taught us, that a great deal depends on the habit of the patient, as well as on the age. Infants are exposed to much greater danger than children of seven years old and upwards; and persons more than forty years of age, seldom recover from formidable attacks of small-pox.

#### CONTAGIOUS CHARACTER.

It is of great consequence that a disease so formidable, should be as limited in its number of victims as possible. It was,

therefore, a great point gained, when it was decided, that small-pox invariably arose from infection. That the greatest benefit may be derived from the knowledge of this fact, it is very important that the means of avoiding this contagion, should be understood. That the sick who accidentally take this disease, should be attended to, and all their wants supplied, is a first principle of morality. Nothing can excuse the want of it.—The first thing to ascertain is, by what means the infection can be spread; and to what distance it may be propagated? These questions have been investigated with great diligence and care. It is agreed that from the bodies of patients having small-pox, whether the disease has broken out or not, or, indeed, at any time during the existence of the disorder, there proceeds an effluvium or infecting agent, by being exposed to which, those who have never had the disease, will contract it. To what distance this infection may be propagated, is not determined. Some have limited it to a few feet; I believe the majority limit it to about thirty feet. My own opinion is, that where a great accumulation of cases exist, as in a hospital, it might be propagated to a greater distance.—The smallest portion of matter taken from an infected person, seems capable of producing the disease, by being brought near to the person of another, without even coming in actual contact. So subtle and searching is this infection, that we hardly know when our care has been sufficient to avoid its propagation. It is, therefore, of the greatest importance, that the custody and management of the infected, should be in the hands of the most discreet persons. Contact of the matter from infected persons, has been known of itself to produce the disease; but its introduction into a wound, as in inoculation, has been converted into a great means of lessening the violence of the disease. Of this we shall speak more hereafter. Peculiar states of the atmosphere, have been thought to favor the spread of small-pox. Cycles of time have been fixed for this state of atmosphere, and it has been thought that six or seven years were the periods, at which the disorder acquired this peculiar power of self-propagation. Sydenham, the founder of this notion, I think assigned the term of six years. My own opinion is, that there is no justice in this assumption of a time when the small-pox has acquired this peculiarity of self-propagation. If the disease has not been in a neighborhood or city within six years, a great many children will have acquired years sufficient to make them a community peculiarly qualified for its propagation; and this is the only reason for small-

pox appearing more extensively at one time than another.

We have seen that small-pox is so infectious, that it is communicated from the sick to the well, at any time in its whole course. The mildest possible form of the disease, is as capable of producing it in its most violent form, as any other. Even the varioloid, which occurs in those who have been vaccinated, is as capable of being propagated in the form of a violent small-pox, as any other. The first fatal case of small-pox which I ever witnessed, occurred in a person who had never been nearer than two hundred miles to the small-pox. His friend who had been vaccinated, in coming South from New York, came on board a ship some passengers of which had small-pox. He arrived in Milledgeville with a slight fever, on account of which I was consulted. No eruption was apparent, nor any other reason, but his late trip, for supposing his disease had any relation to small-pox. In this state he slept on the same bed with the person I have alluded to, who, in twelve days, was attacked with small-pox which proved fatal.

#### TREATMENT OF NATURAL SMALL-POX.

Few diseases are more difficult to treat properly than small-pox, where it occurs in the natural way. The uncertainty of the nature of the disease, previous to the appearance of the eruption; the peculiar treatment, when considered merely as an inflammatory disease; and the radical difference which must be made in the treatment of cases of great malignity, present questions of no common difficulty.

In ordinary attacks of small-pox, when the disease is of ordinary violence, and no symptoms of prostration are present, the usual remedies for inflammatory diseases, are proper.—Cathartics of calomel, with a small proportion of tartar emetic combined, have had more reputation perhaps, than any other remedy. To a grown person, ten grains of calomel, with half a grain or a grain of tartar emetic, made into two or three pills, may be given at once. To persons particularly susceptible to the active operations of medicines, the tartar emetic might prove too active, and should be lessened in quantity or left out. The nausea which commonly attends the first days of the attack, is no reason for leaving out the emetic: on the contrary, I should conceive it the more necessary, to add the tartar emetic, in such cases. Nor should I forbear the addition of tartar emetic, even in children of the tenderest age, taking care to reduce the quantity in due proportion. This remedy may be

repeated, once in two or three days, till the eruption is fully formed, and the pustules begin to fill. Other remedies qualified to reduce inflammation, may also be used. The antimonial solution composed of two drachms of nitre and two grains of tartar emetic, dissolved in half a pint of water, is perhaps the best. It may be given, in doses of two tea spoonsfull to a grown person, from time to time, when the heat of the body and fulness of the pulse, are too great. Other remedies have also been recommended during this stage of the disease—senna and salts, castor oil, seidlitz powders, or other mild cathartics. These may be given in cases in which the active remedies above referred to, may not appear to be necessary. For it is always to be borne in mind, that, in small-pox, the safest cases are those in which a manifest heat is felt over the whole body, especially on the extremities; and if these symptoms are moderate, very slight remedies alone are called for. Before leaving this subject, I will mention another remedy—bloodletting. If the nature of the case is sufficiently certain, on its first appearance or within the first three days, I should not hesitate to recommend the extraction of blood, if the symptoms of inflammation were high. The remedy, however, in common practice, is very much limited in its use from the fact, that, in the beginning, we are seldom certain of the nature of the disease.

The object of the physician in treating this disease, is to lessen the eruption; for the danger is almost in due proportion to the number of the pustules. In the disease, when arising from inoculation, the exposure of the body to cold air, has produced effects most wonderful. It is denied that these remedies are equally efficacious in the disease, when taken in the natural way. My own opinion is, that the surface of the body should be studiously kept cool; that the patient should be denied the comfort of a soft bed, and placed on a mattress with covering as light as the temperature of the external air will admit. The face especially should be kept cool or cold. Frequent bathing in cold water, and especially the avoidance of the warmth of fire, are particularly necessary. Light also has been thought to increase the eruptive process. That the eyes should be carefully guarded from too much light, is manifestly necessary: but I doubt whether the ordinary light of rooms produces a sensible effect on other parts of the body.

As soon as the pustules about the face are full, and perhaps a few of them burst, all further means of depletion are to be discontinued. The parts readily form scabs, and no external application is considered necessary. In some cases, however,



the flow of matter is so considerable, that applications of starch, hair powder, or *Lapis Calaminaris*, made with great freedom, have been found useful.

The stage of decline requires very few remedies. A gradual return to nutritious diet and restoration of the comforts of a soft bed and warm cover; and, in cases of great exhaustion, a moderate use of wine or brandy and water, constitute the whole remedial agents which are necessary.

The treatment of confluent small-pox, requires considerable variation from the above. The degree of prostration present, with the coldness of the extremities, a soft pulse, and other kindred symptoms, demand the supporting hand of remedies. They indeed seem to call for decided and powerful stimulants, as well as local applications of heat and irritating remedies. Great judgment is necessary in the administration of these means. They should be used to the point that is absolutely necessary, for the support of the patient, and no further.—There can be no doubt that death would, in many instances, occur, but for the administration of a timely stimulant. The most important of these, is, I have no doubt, opium in its various preparations. Even lethargy or stupor forms no objection to its administration. I am of the opinion, that they should be administered in decided doses, at the longest intervals, that the symptoms would seem to warrant. Sixty drops of laudanum, once in twelve hours during the first two or three days, is, in my opinion, a better mode of administering this remedy, than smaller doses at shorter intervals. External warmth is perhaps a more difficult remedy to administer beneficially. I am very clear in the opinion, that the surface should, in general, be allowed to be cool; and that, as long as there is a tolerable degree of warmth, no external means of lessening the temperature, are allowable. Indeed the increase of the eruption, is so manifest from the exposure of the patient to heat, that the risk, if any, should always be on the side of too little, rather than too much exposure to this agent.

The difficulty in treating cases of this kind, is very much increased from the uncertainty, previous to the eruption, of the character it will put on, whether the case will be confluent or distinct. The great object will be, to procure a distinct eruption; and this will evidently be best promoted, by the cool regimen. I should therefore disregard slight symptoms of prostration or sinking, and adhere to the depleting system, and cold regimen as long as possible.

When the maturation is perfect, and a free discharge from a

large portion of the surface of the body, is seen, the object we are to have in view in the treatment is more obvious. Nothing need be feared from the use of generous food, wine, fermented drinks, or other stimulants. They should be used with uniformity, and to a reasonably supporting extent.

Such is our treatment of ordinary small-pox when taken in the natural way—whether it be distinct, or confluent; but we are not always rid of this disease, by getting through with its ordinary symptoms. Many local inflammations occur, and become perhaps more dangerous than the disease itself. Secondary fever also arises at the close, sometimes, in cases that appeared to be of the mild type. In cases more violent, this consequence is still more likely to follow. Great uncertainty rests on the cause of this attack; and physicians have never been able to predict, before hand, whether the patient would have secondary fever or not. This form of the disease occurs at the drying up of the pustules, and, many times, puts on a more violent inflammatory action, than had existed at the outset of the disease. Nor is this second attack less dangerous than the first. Many who have borne the severest afflictions of the first stages of the small-pox, sink at last under this.

The symptoms of secondary fever in small-pox, vary but little from ordinary inflammatory fever. Commonly there is manifest some local disorder, inflammation of certain parts of the surface, swellings and suppurations of the glands, of the armpits or groins, deeper seated abscesses, frequently of the lungs, but very seldom of any part of the abdominal viscera. The duration of the fever will depend very much on these collateral symptoms; and the termination of the disease, when it assumes this form, may be very distant.

The treatment of secondary fever differs very little from that of ordinary attacks of inflammation. The patient is found to require as active treatment, and, oftentimes more active, than that which was found necessary in the first stage of the disease. Purgatives of calomel and rhubarb, castor oil, or other similar remedies, are freely used. They are to be continued, from time to time, according to the duration of the disease, and the presence of inflammatory symptoms. Opium is not to be forgotten in this stage of the disease. Great relief will, many times, be obtained by the use of laudanum, once in twenty-four hours or oftener, when the pain and restlessness are extreme. The disappearance of the local disorder, whether it be an erysipelas or an abscess, will terminate the secondary fever. If the abscess forms, and is discharged, the same course of treat-

ment should follow, as that directed when the pustules have supplicated. The patient should be judiciously sustained by the use of opium, camphor, brandy, quinine, &c.

Particular symptoms occur in the course of this disease, which may call for remedies not herein mentioned. If a violent local inflammation about the throat, is present, leeches may be applied. A special application of cold will be proper. If the scalp is particularly the seat of the disease, the hair should be closely cut; and any abscess which may form under the skin, should be freely opened. The pits or scars which are left in this disease, and so disfigure the sufferer, have been a subject of much discussion and of many suggestions. Little reliance is placed in any of the remedies which have been mentioned, for the prevention of this mischief. The most reasonable proposition which I have met with, is, the application of lunar caustic to the pustule before the stage of maturation, say on the fifth or sixth day of the disease. At this stage a drop of transparent fluid will be found on the surface of each point. A pointed piece of lunar caustic is pressed down on it, and suffered to remain for a few seconds. Each pustule is treated in this way. I have no experience in the use of this remedy, but should not fail to try it, if I should again have a case that might be benefitted by it.

#### SECOND ATTACKS OF SMALL-POX.

We have placed this disease amongst those of which an attack of the same person, is to be apprehended but once in life. No disease is better entitled to this distinction than small-pox; yet there do occur cases of a second attack. These attacks are almost always of the mildest grade. They are so rare, that many experienced physicians have never witnessed them. It is said, that there is no reported case of a single individual having returned to the hospital, in which he was treated in the first. In the small experience I have had, I have witnessed the small-pox in a person who had been regularly inoculated for that disease, thirty years before, but, on exposure to the presence of a person who had the disease, took the infection, and had the disease in its usually mild form. The second attack of small-pox, requires no treatment different from that of the first. It should be treated according to its degree of force. The pustules are said, in these cases, to be more superficial than those in the original attack. Such appeared to be the case in the individual, in whom I saw this

form of the disease. Only a very small number of the pocks formed matter; the rest formed dry scabs, and thus passed away. The only reason I have for mentioning second attacks of small-pox, is, to enforce the idea of perfect impunity, with which those who have had the disease, may attend to the sick. They are almost absolutely free from the danger of a re-infection; and, as far as I know, no case of death occurring from this cause is recorded.

#### INOCULATED SMALL-POX.

This disease had been known to the profession, at least a thousand years, before the discovery of inoculation. By whom this great discovery was made, is not known; but it was found in common use in the city of Constantinople, the first part of the eighteenth century. From this city it was brought to England by Lady Montague, who has the rare merit of having given to the physicians of her country, a great improvement in the medical art. For the first twenty years after its introduction, it was violently opposed by medical men; but, in the course of half a century, it was universally recognised as the safest means of lessening the ravages of small-pox. The more enlightened part of every country in Europe, availed themselves of this happy discovery; but it is to be lamented, that the mass of the lower orders, were still exposed to the ravages of small-pox; and there is reason to believe that the mortality which arose from it, was not lessened, up to the date of Jenner's discovery of vaccination.

The difference between small-pox, when induced by inoculation, and contracted in the ordinary way, is very remarkable. The danger of the inoculated small-pox is so small, that, under a judicious system of management, the mortality has been reduced as low as one in a thousand; while the disease, when arising in the natural way, destroys, on an average, three in ten, and, in some particular seasons, the mortality has been much greater. The most important difference exhibited by the disease, contracted in these different ways, consists in the fact, that after inoculation, the disease is brought on in a shorter time, than after the exposure to infection in the natural way. Physicians have, from this cause, availed themselves of the art of inoculation, to give to those who had been exposed to the infection, a mild, instead of a very fatal disease. In this way, previous to the invention of vaccination, a general inoculation in a neighborhood, in which the small-pox had made its ap-



pearance, has been used to arrest the disease in its progress. The discovery of inoculation would have been nearly sufficient to have robbed the disease of all its terrors, had communities consented to its universal adoption.

The mode of introducing into the system, the contagion of small-pox by inoculation, is very simple. The matter should be taken from the pustule before the formation of pus; but it is agreed, that there is no danger from using the matter at any stage, nor is there any increase of danger by using matter taken from, even the most malignant cases. Nor is it known that the propagation of this disease, in this way, has ever given rise to the propagation of other diseases. A very slight incision is made in the skin with the point of a lancet: the lancet is then dipped into the matter to be inserted, and introduced into this same orifice—the whole cut being so small, as scarcely to cause the flow of a drop of blood. Indeed the operation is most successful, when the lancet is passed under the epidermis without drawing blood. The point most suited to this operation, is the external surface of the arm, three fourths of the distance from the elbow towards the shoulder. A single point only should be touched; for I have no doubt the inflammation and fever would be greatly aggravated, by giving it an opportunity of commencing at more points than one. Indeed the fearful scars which I have seen on the arms of old persons, who had submitted to inoculation by the antiquated plan of inserting a thread for an inch or more in the skin; as well as the fearful account such persons have given me of the inflammation they experienced in the arm, would of itself convince me that it was best to avoid such a mode of inoculation. Great care should be taken that the person who is to submit to the inoculation, should guard against taking the disease in the natural way at the same time. The distance between the individual from whom the matter is taken, and that into whom it is to be inserted, should never be less than ten paces: advantage should also be taken of the course of the wind. In most cases, it will be best to take the matter on a piece of glass from the diseased subject, and carry it to a sufficient distance: should it grow too dry, a little water may be added to moisten it. Such are the simple means necessary to propagate small-pox by inoculation.

#### TREATMENT.

The treatment of small-pox from inoculation, begins immediately after the inoculation is performed. The patient is

to be separated from all healthy persons, who are liable to small-pox; placed on a low regimen, scarcely any animal food to be allowed, and, with equal care, to be guarded against exposure to the extremes of heat and cold. After three days a cathartic of calomel should be given, and, during the next two or three days, a daily dose of Seidlitz powders or Epsom salts may be given. If the patient is robust, these remedies may be repeated oftener: but the above is sufficient in ordinary cases. The arm in which the matter has been inserted, will probably be painful, and a good deal swollen: to this, frequent applications of cold water should be made. If the case is considered violent, sugar of lead may be dissolved in the water to be used. Little more need be said in regard to the treatment of small-pox from inoculation. Reference, in cases that appear to be worse than common, may be made to what we have said above in treating of the small-pox, when taken in the natural way.

#### MODE OF ARRESTING THE PROGRESS OF SMALL-POX.

Vaccination is so far from being universally adopted, that it is, at all times, a matter of fear when it is announced that the small-pox has made its appearance in any neighborhood. In this country, the contagious character of the disorder is universally believed; and the violent measures which have been resorted to, to arrest its progress, have been, in many instances, disgraceful. It is not many years since a poor wagoner on the high way, in Georgia, was known to have small-pox. Some courageous person threw down a fence through which he drove to a barn into which he entered, where he lay neglected and died—without, so far as I have heard, the presence of a human soul. His burial was as savage as his treatment: a torch was applied to the barn and it was burned down. But little less savage has been the practice in other places. The sufferer with small-pox has been, with us, too frequently a doomed man. Those whose humanity has induced them to visit him, have been forbidden to return to their own houses. Even the physician has been made an outlaw and avoided, as if his intercourse with the sick constituted him an embodiment of pestilence. That a great part of this fear is groundless, ought to be known to the world; and that the common calls of humanity should never be denied to the victim of this disease, ought to be a fixed principle.

When the small-pox makes its appearance, the individual in

whom it has appeared, if he is a traveller, should by no means be allowed to proceed. His wants should be provided for at the nearest convenient point. He should be placed in some location where he can be separated from others, to a distance of thirty feet or more; and no cruel attempts to send such individuals into remote and lonely places, should be made. It will seldom be necessary to remove the individual beyond the precincts of any town or village, in which the disease may appear. He should be placed in the custody of individuals who have had the small-pox, if such can be found: if not, those who have been vaccinated may perform this important duty, with perfect safety to themselves, and but little danger to the community. Great care should be taken in bringing any thing from the habitation of the sick. The matter of the infection may produce the disease, either by being applied to the surface of an individual, or placed too near for breathing its odor with safety. The articles that must needs be brought away, require no further cleansing than the ordinary use of soap and water; and nothing is infected except by the actual application of the matter of small-pox. The hanging of clothing in the same room with the sick, does not convert that clothing into a means of transmitting the disease. The care necessary to avoid the transmission of the disease, will hardly be observed by nurses or attendants. These should remain at hand or near the patient. Nor is it necessary to destroy the clothing of patients or attendants. All are rendered clean by the ordinary operation of soap and water.

The physician whose duty calls him to attend to patients under these circumstances, should be exceedingly careful in his mode of proceeding. Many have, in the performance of this duty, infected their children; and all should be informed of the safest means of entering into, and safely leaving the abodes of the sick with small-pox. The suggestion most commonly relied on, is an exchange of clothing on entering, and putting them off on leaving. Such clothing is generally made loose and flowing, and more apt, than ordinary raiment, to come in contact with the matter of small-pox. I am decidedly of the opinion, that such arrangements increase, rather than diminish, the danger. The physician should carefully avoid coming in contact with any thing in the room. He can perform his duty without any contact except the hand; and this he should always take the greatest care to cleanse, before leaving the room. At the door, a change of shoes for a pair that should never leave the place, will be prudent: and these are all the

precautions I have found it necessary to use. I have, in this way, made many visits to the sick with small-pox, and have never had reason to believe, that I brought from these visits, any portion of the infection. We need not add much on the subject of avoiding the propagation of small-pox. Those who have been exposed to its contagion, in a way too manifest to admit of escape, should be instantly vaccinated, if that be possible. I will not suggest a resort to inoculation, because vaccination is, or ought to be, possible under almost any circumstances which may arise; but should the time occur in which vaccination shall not be possible, a resort to inoculation would unquestionably be proper.

#### VACCINATION.

Every reader will have heard of vaccination. To some it may be necessary to say, that it is the propagation of a disease which originates in the cow, by inoculating with the matter thereof, the human subject. This disease in the cow, is an eruption which appears on the udder. In the first accounts we have of it, it was contracted by milkers—producing in their hands a violent inflammation and fever. These persons were found not to be subject to attacks of small-pox; and a supposition or rumor, that this protection against the attacks of small-pox arose from this cause, existed in certain parts of England for an unknown time. The mention of this fact in the presence of Doctor Jenner, excited his attention. He instantly applied his mind to the subject; treasured up every fact which he knew, and discovered others by patient and slow experiment. Of a philosophical turn of mind, he was exceedingly slow to believe his own great discovery. He became, after many years, thoroughly convinced that the opinions of the milkers carried with them an important fact. He believed that the infection from the disease of the cow, when propagated in the human subject, hindered the occurrence of small-pox. He soon found subjects on which to make the experiment. Every thing succeeded in his hands; and in 1798 he announced to the world his great discovery. For a few months during the progress of his publication, he was unable, in the city of London, to find a subject on which to make an experiment. This difficulty was at last overcome; and a knowledge of the discovery was rapidly propagated. Thousands submitted to the operation in England; and, in a single year, it was spread to America and other parts of the world. It was



at first believed to be an infallible preventive of small-pox in any form. Soon however individuals who had been inoculated, were found affected by a milder grade of small-pox, producing a degree of distrust in vaccination, from which it has not yet thoroughly recovered. That it is not so great and perfect a remedy as its discoverer fondly hoped, is true; but that it is still worthy of every commendation, cannot be denied. It is still the world's great reliance in destroying small-pox. We are not allowed to hope that it will, in any reasonable time, extirpate this loathesome disease from the face of the earth; but every one will acknowledge that through its use, small-pox is no longer the scourge of nations. It is pleasing to add, that Doctor Jenner did not die without his reward. The English government voted him the sum of thirty thousand pounds, which, it must be acknowledged, does credit to the liberality of that government, although so infinitely short of the value of the discovery.

Nothing can be more simple than vaccination. It is performed just as inoculation for the small-pox is performed—by inserting a small portion of the matter of the vaccine disease in the skin of the human subject, by a very delicate operation with the point of a lancet. In a few days, a point of inflammation will be found at the spot; a small circle will surround the place; and apparently a thickening of the skin will happen. By the eighth day, a blister is found on the spot, which contains a transparent serum. On opening this blister, a very small portion only will flow out: and this portion is that which is best used in propagating the disease to others. The disease which attends it is so slight, that it seldom requires any remedy: yet, in a few instances, a considerable fever arises, which it is well to treat with a cooling regimen and light cathartic medicines. If the arm is much inflamed, cooling applications by means of cold water, may be made to it; and this is all the treatment this disease requires.

A great deal has been said on the danger of using improper matter, and relying on an imperfect vaccination, for the hindrance of small-pox. It is true, that in all cases, the judgment of an experienced physician is desirable, in deciding when the vaccination has been successful; but, as this is not always practicable, it is decidedly best to resort to vaccination whenever an opportunity for it occurs. It will seldom happen that an inflammation, brought on after the seventh day, from the insertion of any kind of matter except that of vaccination, will have the slightest resemblance to that disease. The pit or

scar which follows vaccination, is also worthy of special note, and may be judged of by any one.

#### SMALL-POX AFTER VACCINATION.

Vaccination, as I have said, is a perfect protection of the life of the subject against small-pox; yet a milder form of this disease sometimes occurs, in persons who have been vaccinated; and,—what is most to be deplored—that mild form of small-pox, is as infectious to those who have never had that disease or been vaccinated, as the most malignant small-pox. Nor is there any reason to believe that the small-pox, when propagated in this way, is any milder than when propagated from its more malignant form. I have myself witnessed an instance, in which small-pox was contracted from exposure to a case of varioloid, as it is termed, so exceedingly mild that not a mark of any description was made by it on the skin of the patient; yet the ease so contracted proved fatal.

Small-pox after vaccination, is a mild disease; not one in several hundreds have been known to die. Its treatment is in no respect peculiar. The cool regimen and mild means advised to combat inflammation, may be judged of by any one. Medicines will seldom be necessary; and should they appear so, be those used in inoculated small-pox will be proper here.

#### RECAPITULATION OF REMEDIES.

Small-pox is most formidable, when its attack has been brought on by exposure to the contagion of the disease. It is, at best, a highly inflammatory disease, and requires very active treatment. It has been divided into two varieties—the discrete, and confluent. These cannot be known apart, till the eruption has made its appearance; nor is it always obvious, at first, to which of these classes the case will belong. If the pustules are thinly scattered over the body, it is a case of discrete small-pox; if they are so thickly strewn, especially over the head and face, that in their growth and development, they will necessarily run together, it is a confluent small-pox. The danger of the disease, is in proportion to the number of the pustules.

The discrete small-pox is a highly inflammatory disease which will run its course, so far as to throw out an eruption on the skin, and cause a suppuration of some of the pustules. The smaller the number of these pustules the better for the patient. The remedies are—

1. Cold applications to the skin. This is probably the most important remedy in the treatment of small-pox. During the fever, and previous to the appearance of the eruption, the patient is to be thinly covered or clothed; lie on a hard bed or mattress, and carefully avoid exposing the hands and face to the heat of the fire. It is said to be equally important to avoid exposure to too much light. This course is to be pursued till the pustules have filled, and the fever is manifestly on the decline.

At the onset of the fever, when there is a full pulse and florid complexion, the patient should take the following prescription: Calomel ten grains, tartar emetic one grain, mixed together and made into pills, all of which are to be taken at one dose. If the patient is robust, and this dose not found sufficiently active, the quantity of the tartar emetic may be increased to two grains; or if it is too active, reduced or omitted altogether. This is a very active cathartic, and may be substituted by others of a milder character. Seidlitz powders, Epsom salts, cream of tartar, or any other mild cathartic, will answer. A high state of fever may continue for several days, and it is not to be expected, that the use of a single cathartic will be sufficient for its removal. It is necessary to press the remedy so as to reduce the patient, and lessen the eruption. To this end, it has been the practice, to give an active cathartic, daily, for several days. This I consider very active treatment, and only allowable in cases of the highest inflammatory grade. A very manageable and powerful remedy is found in the antimonial solution, which may be given in such doses as the stomach will bear without vomiting, whenever the symptoms of fever are considerable. These remedies are to be lessened or suspended, as soon as the eruption has made its appearance. From this time the patient is to be allowed a little nourishment; and if his extremities are cold, and the eruption very thin, and scattering, a small portion of brandy, or a moderate dose of laudanum, should be given. The pustules will not require any particular treatment. They require no plasters, and are to be allowed to burst and form scabs for themselves. If the discharge is very considerable, care should be taken to wipe the matter away frequently, and to apply starch, or lapis calaminaris, to the parts most affected. Few diseases are more benefitted by proper treatment, than small-pox; and there can be but little doubt of the correctness of this mode of treatment, in ordinary cases.

Confluent small-pox differs from the above, only in being

more violent and dangerous. The symptoms are, from the first, more violent, producing in children, coma and convulsions; and, in grown persons, nausea and vomiting, or delirium, and sometimes lethargy or coma. The heat of the body may, in these cases, be considerable; but the extremitities will be cold, and the eruption late in making its appearance. Powerful stimulants are considered the best remedies to bring out the eruption. The best of these is laudanum, and it should be given in full doses, every six or twelve hours, till the warmth of the patient extends to the extremities. If the case appears desperate, brandy may be added, and the warmth of the patient kept up by the local application of heat, in any convenient way. If, by these means, the pustules fill with matter, there is yet hope that the patient will recover, although the discharge will be very great, and the danger from this cause considerable. But, if the pustules fail to fill, and especially if they fill with bloody serum, and resemble blue berries in the skin, there is very little hope. It is obvious that such cases will require every means of support which it is in our power to bring to the aid of the patient. He should have wine, brandy, generous food, and the most comfortable and warm bed and clothing, which can be given him.

*Secondary fever.* After the patient has struggled through the first attack of small-pox, and appears to be out of danger, he is frequently attacked with a secondary fever, as dangerous, and more obstinate than the first. This fever is to be treated according to its symptoms; they are commonly inflammatory, and are much benefitted by bloodletting. Cathartics of calomel and rhubarb, or other similar remedies, may be used. This secondary fever is commonly attended with some local disease, it may be an abscess, or an erysipelas. These inflammations will tend to protract the case, and exhaust the patient to the last degree. In this state of exhaustion, we must again resort to the supporting remedies above mentioned.

Great efforts have been made, to hinder the frightful scars, which disfigure the faces of persons attacked by small-pox. I am not sure that much good has resulted from these efforts. Lately it has been suggested, that every pustule of small-pox which appears on the face, should, as soon as it appears, be touched with a pointed piece of lunar caustic, wet and repeatedly pressed down into its centre. This is said to have the effect of lessening the scars, in a wonderful degree, and I think it worthy of a fair trial.

*Inoculated small-pox.* It is only where the vaccine matter



cannot be procured, and persons are involuntarily exposed to the contagion of small-pox, that inoculation is allowable. That the disease is robbed of half of its power, by being brought on in this way, cannot be doubted. It is therefore necessary that the safest plan of doing this, should be understood.

A very small portion of matter, taken from a pustule of small-pox on a piece of glass, and allowed to dry, may be carried to any distance. It should be carried by a physician, who has had small-pox, or attended it after being vaccinated. A very small portion of this matter is to be taken on the point of a lancet, and introduced into a small puncture previously made in the arm. A wafer may be wet and stuck on the wound, and every precaution used, to avoid the patient's breathing the effluvia of the matter.

Thus inoculated, the patient is a subject of medical treatment at once. He is to avoid the extremes of heat and cold, live on the poorest fare, and take a mild cathartic once in two or three days. With this preparation, carried for eight days to the point which is deemed necessary, the small-pox may be confidently expected to make its appearance, in a mild form. It will seldom require the use of any stronger remedies, after the appearance of the fever. The inflammation that affects the arm which has been inoculated, will require the judicious application of cold water. In all other respects, the treatment will be the same with that which is proper in the milder forms of small-pox, when taken in the natural way.

#### VACCINATION.

*Vaccination.* This is an affection so slight, as scarcely to deserve the name of a disease.. It is performed exactly as inoculation for small-pox. No care is necessary to prevent its propagation; for it is not contagious, except being propagated by inoculation, entitles it to that character. It requires no general remedies. When the inflammation of the arm is considerable, and some fever attends it, a free application of cold water to the part, with a mild cathartic, and low diet for a day or two, may be prudent. No further medical treatment will be required.

This closes what I think it necessary to say, on the awful pestilence, small-pox, and its means of cure and prevention. On one point alone, could I wish the power of language to enforce my advice. It is the prevention of this disease, by means of vaccination. The wonders already accomplished by this

invaluable discovery, have hid the monster, small-pox, from our view, and we no longer fear him. I have seen enough to satisfy me, that the world owes an uncounted debt of gratitude to Doctor Jenner, for the devotion of his time and talents to the introduction of vaccination. I shall never forget the eloquence of Doctor Rush on this subject, or the fervor with which he closed this lecture with the following couplet:

By practice taught, to love the useful plough ;  
With greater cause, " we venerate the COW."

---

### SCARLET FEVER—SCARLATINA.

Few diseases appear under so many forms as this. It was first described in the seventh century, but not so as to be well discriminated from other diseases, until the year 1798. That it should have remained so long in this state of obscurity, will not appear strange, when we have viewed the disease in the various aspects it assumes.

Scarlatina arises from a specific contagion, and affects persons but once in their lives. It is true second attacks are thought to be frequent; but, in this case, they are confined principally to affections of the throat, and are perhaps never dangerous.

#### DESCRIPTION.

We shall be under the necessity of describing this disease, as it appears in its various forms.

1. The first we shall notice, presents itself as a light fever, with a rash, and a scarlet colored efflorescence of the skin. It appears in exceedingly minute points, speedily running together and forming a scarlet colored efflorescence; and, by the second or third day, it has extended over a great part of the body. In some cases, no symptoms of this eruption are seen, and the disease disappears, with a very slight degree of sickness.

2. The next variety is attended with high fever, and inflammation of the throat, tending to suppuration. The inflammation, in these cases, is very considerable—the swelling very great, frequently ending in the discharge of matter from the inside of the throat, or the outside, near the angle of the jaw. The redness observed on the surface, is characteristic and intense: perhaps human flesh never gets redder. The suppura-

tion too is very extensive, destroying a great portion of adipose substance, and leaving large cavities covered by very thin skin. These cases are very dangerous.

3. The third variety which may be mentioned, affects the throat principally, producing large ulcers, exceedingly foul, and sometimes gangrenous. The fever attending these cases, is considerable; but they are more characterized by great rapidity of the pulse, prostration of strength, pale extremities, and other symptoms of malignant disease, and, many times, pass without being recognized as scarlet fever.

4. The fourth variety, I shall term, for the want of a better name, malignant. In this, the powers of the patient appear to yield without a struggle. The ordinary symptoms of the disease do not make their appearance. I have found such cases, even from the first, attended with a prostration of strength truly astonishing. I have seen a child of two years old, unable to bear its weight on its feet, within two hours of the attack, and a corpse in less than six hours more. It would be, in such cases, impossible, so far as I know, to say of what disease the patient died, if they did not occur where there were other cases of scarlet fever. I have found the stomach, in such cases, totally unable to retain any thing, even a few drops of laudanum in a tea spoonful of water. Indeed, such cases appear wholly unmanageable, and the patient seldom survives the third day.

Such is the variety of symptoms presented by this disease. It is therefore not wonderful, that it frequently appears, and is not recognized until several cases have occurred, and its various symptoms are developed. Indeed it would not be easy to believe that the various forms of this disease could be produced by the same infection, but for the well established fact, that having it in one form, protects the individual against having it in any other. It is also a demonstrated fact, that the infection taken from a patient, under any of the above forms, will produce the disease in any other.

The infectious character of this disease is well established; but the means of avoiding it are perhaps less known, than that of other diseases. Very often it makes its appearance without our being able to trace it to its source. In these cases, it is apt to spread most, sometimes fully entitling itself to the character of an epidemic. Many persons pass through life without ever experiencing this disease; and old persons are almost exempt from its attacks. It is uncertain at what stage it is most infectious; but it is believed to continue in an infectious state,

long after the individual who has had it has recovered. I have myself witnessed several cases, corroborative of this fact. I have known one person, who, having had the disease six weeks before, at the distance of nearly a hundred miles, propagated it in a family, in a very malignant form. It is, therefore, exceedingly difficult to point out measures which may be regarded as securing against the spread of this disease. Judging from what I have read and heard on the subject, I am induced to think scarlet fever a much more fatal and common disorder in higher latitudes, than that in which I have been accustomed to see it. I believe its first appearance in the State of Georgia was in the year 1830, when it appeared to have been introduced by some persons who had driven horses from Kentucky. Then, and once since, it has appeared in Milledgeville; but, in various parts of the State, it has appeared from time to time, and I do not know that the State has been at any time entirely free from its presence. I think it is not an unreasonable estimate to say, that not one tenth part of the inhabitants of the State have ever had this disease.

Our description of these varieties must be pursued a little farther. The first variety is a very mild disease, with a moderate degree of fever—the eruption appearing on the third day, in innumerable small points, diffusing itself extensively over the body. On the tongue, the rash appears more distinct. Even where that organ is covered with fur, the red points will appear through it. The heat of the skin is so great, that it must be considered characteristic of this disease. Even in cases that have appeared to be mild, I have found the heat to be greater than in any other disease. But where the disease attacks the skin only, it is seldom dangerous, and subsides slowly after the eighth day—the parts which have suffered most always throwing off the epidermis. Where the skin is thick, this symptom becomes remarkable—the soles of the feet, and palms of the hands, frequently peeling off like paper.

In the second form, the rash and inflammation of the skin, and throat, appear at the same time. The symptoms are almost always severe; but ulceration and suppuration are frequently avoided. In these cases, the pulse is rapid, the tongue dotted red, the rash appears later, and recovery is slow. Frequently the stomach and bowels are very much disordered.

It is rare that we meet with a case so malignant, as to hurry off the patient, before any part of the local disorders we have alluded to, make their appearance. The scarlet tint of



the skin, or ulceration of the throat, appears even in the worst of cases. The eruption however feeble, is not pale, but purple, sometimes with a tint of bright purple, unlike any thing else I have seen; but the prostration of strength, vomiting, dark red color of the throat, gangrenous ulcers about the fauces, and the rapid course of this form of the disease, will prepare the physician to expect the worst. The deceitful character of the disease is also complained of by medical writers. Cases which appear mild, and progress for several days without an unpleasant symptom, suddenly change into the most malignant forms, and end in speedy destruction. The tendency to suppuration, in this disease, is very great. It most frequently occurs about the neck and throat, and in the ears and other adjoining parts; but sometimes suppuration occurs in the limbs, and especially in the joints, presenting perhaps the most obstinate form of this disease.

The ills we have described, are not all that belong to scarlet fever. Frequently the disease seems to have terminated; but local inflammations of various organs follow. The eyes, the ears, and the lungs come in for their share of these disorders. Dropsy also is a frequent sequel of this disease; but it is said that it never occurs after the malignant form. After all that has been said, we have much to learn in reference to scarlet fever. We have, many times, epidemic disorders which pass under the terms of quincy, ulcerated sore throat &c., in which there is no eruption of the skin to identify them with scarlatina; and yet, in other respects, their symptoms are the same. Indeed I know no way of discriminating one from the other, except by their attacking persons who had scarlet fever, or individuals at the same time suffering other forms of that disease.

The danger attending any particular case of scarlet fever, is, in the first place, in proportion to the malignity, or prostrating power of the attack. This sudden and great prostration will always warn us of danger; but, in cases where the local injuries are extensive, and where the strength of the patient, in the first stage of the disease, seems to be well sustained, the danger will be in proportion to the extent of the local injury. For instance, the abscesses about the throat and other parts of the body, may, of themselves, produce great danger. I have found them but little inclined to heal, and many patients sink from the excess of discharge from them. The ulcerations, especially when dark colored and gangrenous, in the throat, are also significant of danger. In other respects,

or when the symptoms are milder, scarlet fever is a mild disease. I have seen forty persons attacked with it without a single serious case; yet, at other times, almost every person attacked in a family will perish. We have been told that in Paris, in 1743, an epidemic scarlatina carried off every person who was attacked with it. My own experience in it has been such as to cause me to dread it more than small-pox.

#### TREATMENT.

In the milder forms of scarlet fever, the treatment is exceedingly simple. The disease is purely inflammatory, and of a grade in itself not dangerous; yet our fears are not to be lulled into such security as to hinder our watchfulness; for the disease, however mild, sometimes puts on alarming symptoms. Abstinence from food, or taking food of the lightest character, should always be the first rule. Light cathartics, seidlitz powders, castor oil, or calcined magnesia, answer very well. If there is great heat of the skin, lessen that heat by sponging with cold water; and here let me remark, do not be afraid of cold water. The sensation of the patient will direct the time at which it should be discontinued. Commonly it is sufficient to apply it to the extremities, the legs, and feet, arms, hands and face. Half an hour or perhaps an hour, will be long enough to make the application at one time. But if the extremities become pale under its use, it is to be laid aside, and returned to, from time to time, as the circumstances shall seem to require. For in this disease, I repeat it, it is safe to keep down the heat by the application of cold water.

Where the stomach is much affected with sickness, and cathartic medicines are thrown up, an emetic, of ipecac may be given; and where the symptoms are of higher grade, the antimonial mixture, made by putting two grains of tartar emetic and two drachms of nitre into half a pint of water, may be given hourly—a tea spoonful to a child of six years old, as long as the symptoms appear to require it.

The second, or more violent order of cases, we have seen, attacks not only the skin with an extensive eruption, but the throat with ulceration, and perhaps extensive swellings and suppuration in other parts of the body. No disease can be more intensely inflammatory, or require a more decidedly depleting course of treatment. Bleeding will of course be proper, in the first stage. But it is not always in our power to resort to it, at the time it would be most beneficial; for it should

be done even before the eruption appears. Emetics are thought to be peculiarly efficacious; and, except it be a very small child, a decided preference should be given to tartar emetic. Cathartics are also used; and of these the best, I have no doubt is calomel. A daily cathartic has been recommended during the stage of inflammation, and preceding the formation of matter. My own opinion is, that the cathartic should not be repeated so often; but that the antimonial mixture, above described, should be used, from time to time, according to circumstances. Leeches, cupping, scarification of the tonsils, and other remedies for the removal of local inflammation, have also been recommended. The application of cold, in these cases, has also been highly extolled; and I concur fully in the opinion, that they are exceedingly important. All these remedies which tend to exhaust the system, are to be pursued with that judgment which shall always remember, that the strength of the patient should not be too far relied on. After the free operation of these remedies, the irritation, pain, restlessness, and other symptoms frequently call for the use of laudanum. A single sufficient dose is the best mode of using it—sixty to eighty drops to a grown person, and a smaller dose to children according to age. This may be required daily, or twice a day, for several days, from the time the ulceration of the throat, or suppuration takes place.

As soon as suppuration has taken place, the rules of the treatment change, and every means of support becomes necessary. Food is gradually to be made even a remedy, spirits or wine also become necessary, and other tonic medicines are to be used, according to the strength of the patient.

The malignant form of scarlet fever, when it is fully developed, admits of no treatment with any prospect of success. I have never seen a single case, with the decided symptoms I have mentioned above, recover. Indeed it is perhaps nearly impossible to administer to them any remedies. Every thing is rejected from the stomach, and external remedies have proved equally fruitless.

The local disorders which follow scarlet fever—inflammation of the ear, eye, &c., require the treatment which inflammation of those organs from other causes require. But there is one sequel of this disease which requires particular notice. Dropsy frequently follows even the mildest cases; and this dropsy is frequently obstinate and alarming. I have found the most active treatment the best. Cathartics of jalap and cream of tartar, every second day, have arrested these cases, under

my observation, with safety and success. This is a common remedy in dropsy; but it is especially recommended here because it would naturally be supposed that a patient, running into this disease from so formidable a disease as scarlet fever, would be too feeble to bear so strong a remedy. My own experience is, that dropsy, after scarlet fever, is as inflammatory, and requires as active treatment, as when it arises from any other cause. Should it prove obstinate, the other remedies recommended in dropsy should be used.

---

### MEASLES—RUBEOLA.

This is a contagious disease affecting persons but once in their lives. For a long time it was confounded with scarlet fever, and many persons were supposed to have had that disease more than once, and it is but lately that the discrimination between these two diseases, has been at all perfect. It is perhaps the most uniformly inflammatory of all eruptive diseases. It has never, within my observation, assumed the malignant character, and produced the great prostration so frequently met with in small-pox and scarlet fever.

#### DESCRIPTION.

In its attack, mild cases of measles are scarcely to be discriminated from a common cold. It produces the same sneezing, suffusion, or running at the eyes, chilliness, cough, &c. Cases of greater violence occur with a chill rather protracted, and are felt mainly when the patient is exposed to cool air. Fever supervenes, with the ordinary symptoms of inflammatory disease, headache, and pains in the back and limbs. The stomach and bowels too, are very much affected with great nausea, vomiting, griping pains, diarrhœa, &c. The fever which attends this stage of the disease, is violent in proportion to its degree; and is an index to the danger which may be expected. The lungs too are very much affected in this disease, but the pain which exists in these organs is slight; but in all this, the characteristic symptoms of the disease, are not seen. It could not be known for measles, except for the affection of the skin, which is to follow. The rash which constitutes the most certain symptom of this disease, appears on the third or fourth day—sometimes later. At first the eruption



has the appearance of fleabites, principally on the face. From this they spread over the body, and, about the fifth day, have acquired their greatest height. No tenderness or symptoms of violent inflammation attend them; but when they are very numerous they thicken the skin, and, in many cases, the eyelids, ears, and face, are so much swollen, that the individual could scarcely be known. No ulceration however follows, nor, so far as I have seen, the slightest formation of matter of any kind. Authors say that the first appearance of this eruption may be recognised by the rash, appearing in a semi-lunar form—several points near together, in various places, taking up that appearance. This has not appeared to me so uniform, as to make it an unerring mark of the disease. I discriminate it from scarlet fever, from its total inaptitude to form matter; and, especially, on its occurrence in the form of a common cold, affecting the lungs apparently as much as the skin. After the sixth day, the rash gradually disappearing, where it has been severe, the cuticle will peel off like branny scales.

I have said that measles is a contagious disease; and the evidences of its being so, are as full as those met with in almost any other disorder. Still, it is extremely difficult to point out the circumstances under which this contagion spreads. Many individuals contract it, and going to a distant place, it breaks out, and does not spread in the families into which they have thus carried it: in other instances it seems to have been propagated in this way. I have witnessed the case of an individual attacked with the fever, and, in this state, on the second day of the attack, resting at an inn for the night, and proceeding on the next day a few miles, to her own residence. In the house at which she staid the second night of the attack, the measles broke out, affecting every one liable to receive it; but in her own family, where she had arrived about the time of the eruption, and remained to the end of the disease, it did not spread; although every opportunity was given to propagate the infection, to several others who were liable to it. This would seem to be good evidence, that this infection is chiefly propagated by patients while in the stage of fever, and previous to the appearance of the eruption.

It is important to be able to discriminate measles from scarlet fever. This is done more by its resemblance to a common cold, than any thing else—at least in the first stage of the disease. But there is, in the eruption itself, a very marked difference from scarlet fever. Measles appears at first in distinct dots, appearing, as it were in little patches. It may be

felt, especially on the face and arms—the skin having, on these parts, considerable roughness. In bad cases, the eruption is distinctly seen in the mouth, especially far down the throat. The impression made on the skin, leaves a clouded and indistinct remnant of the eruption, for a considerable time.

It would be impossible to enumerate the various combinations of symptoms, which may be met with in this disease. Its violence is sometimes so great, as to produce delirium, and convulsions; and the swelling of the face, and even of the hands, is sometimes very considerable, but with no tendency, as above stated, to suppuration. The bowels and the stomach come in also for their share of the most violent and dangerous symptoms of this disease. The spontaneous diarrhœa and griping pains, although but little noticed by authors, have, in my practice, been the most troublesome and dangerous symptom. Profuse perspiration also attends some cases, and has, within my observation, produced the greatest and most dangerous prostration.

#### TREATMENT.

The first rule to be observed in the treatment is, to avoid the extremes of heat and cold. I have never found it necessary to resort to artificial heat, to sustain my patients, in the first stage of measles. Laid in bed, and covered with the ordinary clothing, I have always found them sufficiently warm; yet should the case assume a malignity which I have not seen, and the extremities remain cold, with an exceedingly feeble circulation, I should not hesitate to apply warmth and such moderate stimulants as would, in other respects, appear admissible. The next maxim as to management is, to avoid exposure to too much light. The tenderness of the eyes frequently indicates, with sufficient plainness, the necessity of this rule. These maxims being well observed, and the patient kept on a very low regimen, most cases of measles require no other remedy; but there are many cases in which this practice would be too inefficient.

When the disease attacks the lungs with symptoms of considerable inflammation and pain, or affects the head with intense pain, bloodletting and other general remedies for the reduction of inflammation and fever, become necessary. Few cases require the use of the lancet; but sometimes the majority of the cases which will present themselves, should not be allowed to exhaust themselves without the interposition of remedies. If the fever is high, gentle cathartic remedies may

be safely used. Calomel, succeeded by castor oil, is probably the best. Where the stomach is affected with nausea, and the bowels not much affected, I have no hesitation in giving emetics. Ipecac is probably the best of these. The remedies will hardly require to be repeated ; and commonly the administration of a single dose is all the case will require.

I have stated that a due medium was to be observed, in the application of cold to the skin. This rule is generally good, till the eruption on the face has fully appeared. When this stage has arrived, and the heat and oppression are very great, I have no hesitation in recommending the application of cold water to the face and extremities. This is considered by the highest authority, a doubtful practice ; but my own experience is decidedly in its favor. The measles, in this stage, cannot be expected to keep up great heat in the skin, for a great length of time ; and therefore the term during which cold applications are admissible, will be short, never more than one or two days. Nor should it be continued throughout any day ; half an hour, or an hour at a time, is as long as it will be necessary.

Sometimes the eruption suddenly disappears, and the illness of the patient appears very much increased. Opiates are, in these cases, by far the best remedies. Laudanum, in doses suitable to the age of the patient, may be given once or twice in the twenty-four hours. Warm bathing of the extremities, applications of mustard or other stimulants ; and, in extreme cases, the internal use of spirits, camphor, or other strong stimulants become necessary.

The persons most subject to attacks of measles, are of an age at which a great deal of discretion cannot be expected. Children frequently run in the open air, even in cold weather, with a fever which is to end in an eruption of this disease ; and I have frequently observed them to get well as readily, as those who had been most carefully attended. Sometimes, however, the symptoms are greatly aggravated, and the eruption hindered, the patient at night having symptoms of great oppression. If the lungs are not too much affected, and the case attended with great fever, I administer opiates—laudanum in doses suited to the age of the child. This remedy I have found exceedingly useful in allaying the irritation of measles. Many times it will allay the most troublesome cough, and is our principal reliance where the bowels are affected with much pain. It should be recollected, that in treating this disease, we are contending with that which of itself cannot last.

If we combat successfully the present symptoms, time and the natural course of events will do the rest.

I have said that measles is seldom a dangerous disease ; and when occurring by itself, and in weather not too hot or too cold, I have seen few exceptions to this remark. Certain complications of the disease are, however, much to be dreaded. It frequently attacks children who have not yet recovered from hooping-cough ; and these cases I have found exceedingly dangerous ; yet there is but little to be added in regard to the treatment of such cases. The rules above given are still to be adhered to.

The diarrhœa which sometimes succeeds measles, requires no peculiar treatment. It is to be treated as that disease when it arises under any other circumstances. But the most obstinate and dangerous of the diseases which follow measles, are those which attack the lungs. They require patient watchfulness and care—no remedies that I know of, differing from those applicable to coughs in general ; but the patient is to be managed, in these cases, with a view to the peculiar obstinacy of the disease. The remedies used should be mild, but the patient should be particularly protected from exposure to fatigue or cold.

---

## ROSEOLA.

This disease is known by a slight rose colored efflorescence, extending widely over the surface, and attended with a moderate degree of fever. It is not contagious, and is of rare occurrence ; but whether liable to affect the same person more than once, has not been well determined. It would be of little consequence to notice it, but that its resemblance to scarlet fever and measles, is such as to render it, in some cases, doubtful whether it is not one of those diseases. Like scarlet fever, it sometimes affects the throat to a considerable degree. A rash, sensibly felt with the hand, appears on the skin, succeeded also by a rose-colored efflorescence. In this disease, this efflorescence recedes and reappears, without any remarkable change in the situation of the patient—differing in this respect from measles or scarlatina. The skin also is left without any liability to be thrown off, as in the other diseases we have mentioned. Neither has roseola the catarrh, or common cold, which is the common symptom of measles.

Roseola is commonly a disease of infants ; yet it, in some



cases, attacks persons of any age. An eruption exactly like it, sometimes occurs in persons laboring under small-pox ; but it, no doubt, in those cases, belongs exclusively to that disease. It is known also from other mild eruptive diseases, from having a decided rash or roughness on the skin. It seldom lasts more than five or six days, and is almost never attended with any danger.

#### TREATMENT.

Rest, a low regimen, and mild laxative remedies, form perhaps the only treatment required in this disease. It will disappear in a reasonable time ; and no unpleasant consequences need be apprehended.

---

### CHICKEN-POX—VARICELLA.

This is a slight disease, liable to occur to the same person but once in life. It would be scarcely necessary to treat of it, but that its resemblance to small-pox, is sometimes a cause of unpleasant or dangerous mistakes.

#### DESCRIPTION.

It is doubtful whether the eruption in chicken-pox, is preceded by any fever. When it is brought to our notice, a few vesicles are found in various parts of the body, about the size of a split pea, containing a watery fluid. Some degree of fever will at this time be noticed. These vesicles are generally distinct ; but, sometimes, in certain parts, they are found so near as to run together, forming a blister of considerable size, which ends, however, in a short time, in a dry scab, and thus terminates without further mischief. The skin below appears to be but little affected ; yet there is, in many cases, a scar of some extent left, resembling in some degree the pit of small-pox.

The contagion of this disease must be considered strong ; for few persons live without experiencing it ; yet there has not occurred, within my observation, a single case in which any serious mischief has resulted from it.

#### TREATMENT.

After what has been said of the slowness of this disorder, a very few words are sufficient in regard to its treatment. There is, it is true, a certain degree of fever attending it ; and

the patient should avoid fatigue, or other circumstances which might aggravate the symptoms of fever. A low diet, and some gentle purgatives, may be used where the patient seems to be affected with fever. Further use of remedies would seem to be uncalled for.

---

## INFLAMMATION.

A general knowledge of the subject of inflammation, is so essential, that it would be difficult to set a limit to this work, which should not require it to be treated of in a separate chapter. It is true, we shall be compelled to refer to it, as the leading symptom or cause of many diseases; but it occurs under so many circumstances, and is so often the subject of treatment, that I consider it necessary to treat of the subject somewhat at large. Pain, redness, heat, and swelling, have been considered the essential characteristics of inflammation, from a very early age. These symptoms begin, attend, or conclude, nine tenths of the inflammatory diseases with which men are afflicted; but inflammation is not always to be considered, an unfriendly or destructive agent. On the contrary, diseases appear, many times, to lead essentially to it, and to end in it under the most favorable circumstances. So sensible are physicians, of the benefits of inflammation, in many instances, that many of their remedies are directed to its production. The terminations of inflammation are various, resolution, suppuration, and gangrene, being the most common.

In considering inflammation, we are first directed to the variety of pain which attends it—in some instances prickling, tingling, smarting; in others, sharp, lancinating; and sometimes with scarcely any pain. But perhaps the most common pain which attends inflammation, is that which is attended by throbbing, producing pain at every pulsation.

The great sensibility of the skin, makes it the source, in many instances, of the keenest pain. Inflammations which occupy the skin, are fully as painful, as those which occupy any other tissue of the body. Distension also from the swelling, is of itself a great cause of pain. The motion which in some cases is unavoidable, is often the principal cause of the pain which attends inflammation. Yet all this variety of pain seems not to depend on the sensible qualities of inflammation; for we have many examples of great inflammation without pain.

Moreover, a paralysis of the nerves which lead to the part, produces insensibility which hinders pain, in spite of the presence of any degree of inflammation.

The heat which attends inflammation, never exceeds that of the circulating blood. On this head deception is very easy. By laying the hand on the part, the heat will at sometimes appear very great; but the degree of that heat will be found, on investigation, to be no greater than that of the blood of the patient. If, therefore, the heat is greater than the ordinary heat of the body, it will be found, on investigation, that some degree of fever attends the case.

The redness is owing to the increase of blood in the part. This increase of red blood, seems to be provided for, in the process which attends the swelling of the part. The minute vessels which usually transmit only the watery portions of blood, become now enlarged, and transmit red blood. Nor is it doubted, that, in these cases, new vessels are formed which transmit also red blood, and serve to augment the swelling. The aspect of a part in a state of inflammation, varies with all the shades of redness. In some instances, it is of a livid, purplish tint; and the blood seems really, to pass through it very sluggishly; but, in other cases, the color is of a bright scarlet, and the blood appears to circulate with much greater rapidity. The deep seated organs which are beyond our investigation, as to color, have, no doubt, the same accumulation of blood, and the same change in this respect, which is witnessed on the surface. Dissection has placed this beyond a doubt. There may be redness without inflammation; and this will come under the observation of any one, who will notice a part which has been inflamed, and, in some degree, disorganized a short time after that event. A degree of redness will remain for a shorter or longer time.

The swelling which attends inflammation, is perhaps the most interesting to be considered, in reference to the whole matter. Generally, it has been considered, altogether curative in its character. By some unknown law, as soon as a part becomes inflamed, the blood throws out coagulable lymph or albumen into the flesh. This coagulable lymph acquires a solidity and firmness, which give rise to the hardness or firmness of particular organs, witnessed only in inflammation. This firmness and resistance—probably the greatest cause of pain, serve yet to limit the spread of the disease. When the inflammation goes through its most common course, and forms pus in the centre of the part, this pus is hindered from spreading

and entering other organs, and thus producing incalculable mischief. The nature of the parts affected, limits the extent, and generally causes the particular character of this swelling. In some parts, visible swelling is impossible—for instance, in the bones. The presence of inflammation, is, in such cases, sufficiently indicated by the presence of the rest of the symptoms of this disorder.

Much has been written to assign a cause for the happening of inflammation, in any particular part. Wounds, bruises, foreign matter thrust into the flesh, and other similar causes, are obvious to all. Exposures to cold or to heat, are also obvious causes; but, in the great majority of the cases in which we meet inflammation, we search in vain for any cause from which it should have happened, in any particular spot. Writers, it is true, have seen or fancied, that there was a congestion in the part, which preceded the inflammation that was soon to occur. Of this, I confess, I have seen too little to give any opinion.

One of the most common consequences of inflammation, is the production of pus or matter. This substance, differing so widely in its appearance, from the blood, is, nevertheless, a product from that fluid. It has, on examination with a microscope, a much closer resemblance to the blood, than would at first appear. Pus is formed of globules, as well as blood; and some have thought, and with great plausibility, that pus is identical with the red globules of the blood, except that it is divested of its coloring matter.

The watery portion, or serum of the blood, is separated from it, in some instances of inflammation. It is seen to transude or exhale from the surface of membranes which are inflamed. It is also in this way, that the water or fluid, found, many times, in the cavities of the body, and constituting dropsy, has arisen.

Ulceration, or the absorption of inflamed parts, is another termination of inflammation frequently met with. This is the particular obstacle to the healing of ill conditioned ulcers, and will come under our notice, when cases of this kind are treated of. But it may be well to notice here, that not only the skin and adjoining parts are absorbed, in this way, but fat, and even bone, is subject to this curious process. The repairs which nature performs, in parts which have been subjected to the destroying influences we have been considering, are worthy of a passing notice here. Not only are parts filled up after they have been destroyed by inflammation, but new blood vessels, and new absorbants, are formed in these new parts. The



coagulable lymph which we have mentioned above, is the great agent of this repair.

Inflammation is rarely present without inducing some general disease of the body. If it is extensive, the fever which attends it, becomes manifest, and the blood drawn exhibits the buffy coat so characteristic of this state of things. This state of the blood is exceedingly important to be noticed; for it not only enables us to judge of the proper treatment of a visible inflammation, but is our best evidence, in many instances, of the presence of inflammation which we cannot see. Still, this state of things is not always present when there is inflammation; for the variety of this affection, both as to its phenomena, and its latent or unknown causes, is beyond estimation. It is of some consequence, that, in looking for the presence of this state of blood, it should be drawn in a full stream, in a vessel of some depth—for any variety in the mode of its abstraction, changes its parts wonderfully. And, after all the investigation which has been given to it, this is a sign that not unfrequently misleads us. It may be considered however as settled, that the stronger the contraction of the buffy coat, and the more cupped its surface, the higher is the grade of inflammation. On the contrary, if the contraction is weak, and the blood, after it has stood for a length of time, is easily broken, the inflammation will have but a slight tendency to the formation of pus. The blood, in these cases, has the appearance which has been termed iris—resembling the rain-bow, and is sufficiently characterised by its appearing of a mixed bluish and red mingled together. It has been asserted, that mere plethora will frequently produce a buffy state of the blood. This I consider extremely doubtful. My own impression is, that there is a present inflammation in these cases; and that the appearance of this state of the blood in pregnant females, apparently otherwise in health, forms no exception.

Inflammation, however excited, tends to some particular termination; and the various modes and manners in which this happens, have been a matter of deep thought and investigation. The most common of these has been termed resolution, by which we mean a gradual disappearance of the inflammation, leaving the part sound and unhurt; and this we may consider the most favorable of all the terminations of inflammation. There is another termination, very liable to be mistaken for this; and, from some unknown law of nature, it occurs more frequently than we at first might suppose. It is called metastasis, by which we mean, a transfer of inflammation from one

part of the body to another. This occurs very frequently in gout and rheumatism. These diseases, leaving one part of the body, without evident cause, are transferred, perhaps within a few hours, to another and distant part.

Another termination of inflammation has been termed extravasation. This term signifies a throwing into the surrounding substances, fluid matter, probably the serous portion of the blood, whereby the part appears to be attacked with dropsy. The inflammation at the same time declines. This sometimes occurs in the most important organs of the body, in the lungs, or perhaps the brain.

The effusion of coagulable lymph in an inflamed part, we have mentioned. But its importance justifies a further notice of it. This lymph, transparent and fluid, at first hardens, and becomes as it were dry. It is the great cause of the hardness of inflamed flesh. When thrown into the flesh, it, many times, abides for a great length of time, productive of little or no inconvenience. This is more particularly the case in inflammation of the joints, and other ligamentous and tendonous parts of the body. The eye also is subject to a very common injury from this cause. The spots formed on the transparent portions of the eye, arise from a deposition of coagulable lymph in that membrane. This substance is not only thrown out into the solid parts of the flesh, but is sometimes thrown out on the surface of inflamed parts. The membrane surrounding the heart is a very common seat of this occurrence. It occurs also in the cavity containing the lungs, producing, in many instances, an adhesion of the lungs to the side, which never gives way during life. The same thing occurs in the wind pipe. The common disease croup, sometimes becomes as it were chronic; and, by the inflammation attending it, a membrane is formed of this matter which is commonly destructive of life by suffocation. In a few cases, however, it is coughed up, and the little sufferer escapes after a protracted struggle. The lining membrane of the intestines is also subject to this accident. In dysentery a considerable portion of the lower intestine, is sometimes lined with this lymph, which forms into a strong membrane, and is discharged, presenting a substance resembling a portion of the intestines. I have been seriously informed by an individual, that she had discharged a portion of her intestines nearly a foot in length.

We are not done with the effects of lymph, thrown out in the process of inflammation. It is the great bond of union between parts of the body, which have been divided by wounds. It is

the great balm of nature, by which the healing process has been made possible. Thrown into the flesh and surrounding inflamed parts, it limits their extension, and thus makes a safe receptacle for that formation of pus which might, by entering the circulation prove fatal. It is therefore a great object to induce, in wounds, the throwing out of this matter. And there is a degree of inflammation suited to this object ; but a greater or less inflammation in many cases hinders the healing of wounds.

Suppuration or the formation of pus, is a common termination of inflammation. Pus, when light colored, smooth, inodorous, and about the consistence of cream, is called healthy, because the production of such pus is the best evidence that the part which has produced it, will readily heal. The common course of inflammation is to throw out lymph first, and pus, next. In the solid parts of the body, the pus makes for itself, a chamber or cavity, from which by the absorption of the parts commonly towards the surface of the body, it gradually progresses, till it bursts and escapes. It is not always, however, that pus presents the above appearance. It is sometimes thin and watery, having the appearance of oil ; and, in such cases, we do not look for so favorable a result. It is comparatively harmless however, so long as the air is excluded ; but so soon as it comes in contact with the atmosphere, putrefaction commences ; and, from this cause, wounds become exceedingly offensive. Something seems to depend on the part of the body in which pus is formed. When near the intestinal canal, either in the liver or near the rectum or anus, pus, without any other obvious cause, becomes exceedingly offensive. I have discharged many such abscesses, which have healed without difficulty, notwithstanding the great offensiveness of the matter discharged.

Ulceration is most common in the skin, and depends on the absorption which has been caused by a high degree of inflammation. But it occurs also in other parts of the body ; arteries and even bones are subject to ulceration. It is more rare in fibrous or serous tissues, such as the lining of the lungs, and the ligaments about the joints. Yet all these parts are subject to be penetrated by pus, when it originates in such a situation that it cannot readily escape through other tissues. Healing is opposed by absorption, by sloughing, or by fungous flesh.

Finally, we arrive at the last dreadful end of inflammation, mortification, or death, in the part affected. And here the

powers of nature to overcome a commencing death of the body, stand up and claim from us a high degree of admiration. The mortified part is instantly surrounded by a barrier of coagulable lymph, which hinders the putrid matter from passing into the circulation of the blood. Ulceration instantly commences to surround this dead mass with a furrow, and to cut it off from all connexion with the living flesh. Nor does it matter of what the dead part may be composed, be it flesh, be it skin, be it bone, nature instantly sets about the work of cutting it off.

The inflammation of internal organs, is the great foundation of many diseases. Here we are hindered from that inspection which would enable us to decide on its character and danger. The symptoms which it produces, have been a matter of deep study and investigation ; and here, above all others, has the dissector, in his post mortem examinations, lifted the vail from this obscure subject. The physician now goes forward with a great degree of confidence, that he understands these diseases. The leading symptom which attends them, is fever ; and fever which has been termed inflammatory, for the good reason, that it is produced by inflammation. It is, many times, uncertain whether the fever has preceded the inflammation, or the inflammation the fever. One thing, however, we should bear in mind, that the importance of the case does not depend upon the degree of fever which attends it. Organs absolutely essential to life, being, many times, inflamed without producing any great degree of fever. As a general rule, the fever is higher in young and plethoric persons ; but it is modified by the organs affected, and by the habits of the patient. In these deep seated inflammations, suppuration often occurs ; and then it is, that a remarkable change in the character of the fever takes place. Chilliness, followed by a decline of fever, with profuse perspiration, renewed at irregular intervals, great decay of strength, increase in the rapidity of the pulse, and other symptoms of prostration attends. Indeed the case becomes, a hectic fever.

Great is the variety of inflammation, as it makes its appearance in the various tissues of the body. Abscess, a common consequence of inflammation, is most commonly seated in that membranous organization, immediately below the skin, ordinarily containing fat. The occurrence of suppuration in these parts, may be judged of by the touch. To hardness succeeds softness, and evident fluctuation of matter. The serous membranes, such as the lining membrane of the lungs, are seldom subject to suppuration. Here the inflammation runs high, the



pain is intense, and the blood showing the highest degree of inflammation; yet the tendency is not to the formation of matter, but to the thickening and adhesion of the lining membranes. The joints also resist the formation of matter, in a remarkable degree. This is witnessed in rheumatism, and indeed after injuries which may have resulted in a high degree of inflammation. It is only when air is admitted into the cavities of the joints that they readily produce pus. The skin is perhaps subject to the greatest variety of inflammatory disorders. We have said that it is a seat of intense pain; this however is by no means always the case. The internal teguments of the lungs, bowels, &c., do not readily form matter; but, on the contrary, are much more apt to adhere, or to pour out mucous or serum. Muscular fibre is very little subject to inflammation.

Arteries and veins are very common seats of inflammation; and very different indeed, is the result of this affection, when thus seated. The artery seems to have power to throw off this enemy of its organization. The coagulable lymph will close its pores, and soon bring the disease to a favorable result. In the veins, however, the case is very different; suppuration in these vessels, is exceedingly dangerous. The pus finds its way into the blood, circulates through the whole body, and is, many times, destructive of life.

Inflammation has been divided into two great classes—the acute and chronic. The acute, with symptoms of great violence and rapid progress—the chronic, with symptoms mild and slow. Between these great classes no exact line can be drawn; nor is it of much consequence in a practical point of view. Acute inflammation runs to a speedy termination, and develops the danger at once; but chronic inflammation may be none the less dangerous for its slow progress. Indeed it is this form of inflammation which produces the greatest change in the substance it attacks—such as hardening, thickening of membranes, pus, serum, &c. There is an inflammation which has been called latent, because it is unattended with pain, and productive of none of the ordinary symptoms of inflammation. Except for the lately invented system of investigation by auscultation, these diseases, when they attack the deeper seated organs, would remain unknown during the lifetime of the patient. With these aids, they are no longer allowed to remain totally unobserved. In the ordinary classification of inflammation which has been made on the rapidity of its progress, there are varieties which depend on the spe-

cific character of the disease in which it occurs. The inflammation produced by small-pox, differs widely from that produced by measles, and this again is widely different from that produced by erysipelas. But, the most important of the chronic inflammations, is that which attends scrofula—a disease in higher latitudes exceedingly common, but in this country, comparatively rare. This inflammation is characterised by its slow progress, and especially by the curdy matter seen in the fluid pus discharged from it. Its progress, it must be confessed, is too little influenced by remedies. This form of inflammation attacking the lungs, is thought to be almost the sole cause of consumption.

Scrofula is considered a hereditary disease, and the subjects of it are thought to inherit a temperament which may be known by the appearance of the individual. This temperament has obtained the name of leucophlegmatic—characterised by a pale, pasty complexion, large head, narrow chest, large belly, soft muscles, and feeble circulation. Within the range of my observation, this temperament has not been so conspicuous, as it is represented to be in higher latitudes. I do not know that I should be able to point out a single individual, in childhood, whose growth and maturity would necessarily lead to consumption.

It is not my purpose in this place, to treat of the many diseases founded on inflammation. Most of these will require a separate consideration. For the present, I shall satisfy myself with pointing out the general remedies for this disease, leaving the details of treatment for particular cases to be taken up in their proper places.

#### REMEDIES FOR INFLAMMATION.

The remedies which operate against inflammation, are called antiphlogistic, and are composed of medicines and regimen. We shall consider in the first place, the regimen which it is proper for a person to use while afflicted with this disease.

The first act of judgment in the treatment of a person laboring under inflammation, relates to a proper regimen, and the removal of all present causes of the disease. If it has been brought on by exposure to the action of any caustic, or poisonous substances, or the presence of a foreign body, acting on or injuring the parts affected, these causes should be removed without delay. The next thing is to adopt a regimen suited to the case. As a general rule, this regimen will consist in

the use of the lightest food ; a total abstinence from every artificial stimulant, the use of cold water only as drink, and a free exposure to cool or cold air. These measures are the more necessary, where the disease is sudden and violent, and where the parts affected, are essential to life, or its enjoyments. If for instance, the brain, the lungs, or even the eye, are affected with acute inflammation, total abstinence for a time, will be necessary, and this is but a small part of the antiphlogistic measures, which will be required. But where inflammation is of long continuance, the regimen must, in some degree, conform to the requirements of nature. Food and drink must be allowed, but under such regulations, as the nature of the case requires. In these cases, the food chosen should be nutritious, but not stimulating, and used only in the quantity necessary to sustain the patient. In many cases of deep seated inflammation, a rigid adherence to a low regimen, has accomplished wonders. This is especially true, where dropsical swellings attend them. But there are other diseases, in which symptoms obviously inflammatory, are not relieved, but made worse, by an abstemious course. This is true in scurvy and in serofula, and, I will add, in many cases of rheumatism. The treatment of these inflammations, can only be successful, under a careful attention to the progress of the disease, under a regimen varied, from time to time, to suit the present circumstances. In many cases, a diet generous and nutritious, is the best.

The remedies which are required, for the removal of the acute inflammation of important organs, are of the most powerful and efficient character. By far the most important of these, is bloodletting. This remedy has maintained its ground from the earliest ages, and under every change in theory or doctrine. It is employed in various ways—by leeching, cupping, or scarification, or by opening a vein or artery with a lancet. As a general rule, the best course is to open a vein in the arm, and to abstract the requisite quantity of blood by a full stream. A great deal has been said of the necessity of continuing the discharge, till the pulse is sufficiently reduced, and no longer. This rule, I think, is seldom available for any good purpose in practice. Many persons become faint, the instant the blood begins to flow, and the pulse suddenly gives way before a sufficient quantity has been drawn ; others sustain this operation in a manner quite as extraordinary, and would by the same rule, require the abstraction of a quantity of blood too great for the necessity of the case. The best method is, to

make up your opinion as to the quantity of blood which should be drawn, and to draw it in a vessel in which you can judge properly when your object is accomplished.

If your patient is liable to become faint under the operation, let him be placed in a recumbent posture while it is performed. How far this powerful remedy should be carried, has been a matter of dispute for a great length of time. It was long thought, that the operation should be repeated, from time to time, till the pulse was brought down to something like a healthy standard. This is to some extent, the object of the practitioner of the present day ; but if he is well informed, he will be apprised, that this is not always practicable. There are diseases, in which the pulse refuses to give way to the lancet, and others in which, at first, it gives way too easily, but is followed by a reaction, in which it is more strong and bounding than before. In such cases, the attempt to reduce the pulse by continuing the abstraction of blood, would be certainly fatal. A sound discretion must be used, in deciding how far the bloodletting is to be continued. The practitioner should never forget, that this is not his only remedy, and that it will be prudent to leave something for other means to accomplish. In cases of chronic inflammation, the proper use of the lancet, is attended with still more difficulty. In these cases, the use of this remedy, would seem to be forbidden by the debility of the patient, and the apparent sufficiency of other and milder measures, to accomplish all the purposes intended. But, in many cases, there is a hardness and resistance of the pulse, which is seldom equalled in other disorders. This state of the pulse, I have found to resist other remedies, in a wonderful degree. Small bleedings frequently repeated, have accomplished more, in my hands, under these circumstances, than all other remedies united. It matters not how pale and emaciated the patient may be ; if his pulse is of the kind I have described, he will bear the lancet longer, and more beneficially, than any remedy whatever. It is thought that the abstraction of blood from the inflamed vessels, or from those of the part affected, has much more power in relieving inflammation, than when the blood is drawn from a vessel in a distant part of the body. This idea has given rise to cupping, leeching, and other modes of local bloodletting. These remedies are unquestionably of great benefit in many cases ; they are as well established, as any of our means of combatting this disease. They are called for when the disease is superficial and local, and in some cases, where the strength of the patient is deemed insuf-



ficient to sustain him under general bloodletting. It would extend this article too far, to point out the various circumstances under which these modes of abstracting blood, should be preferred. The extent to which bloodletting should be carried, in the treatment of any case of inflammation, is a matter to be well considered. The obvious debility, and even danger to life, from the loss of too much blood, should be constantly borne in mind. The appearance of the blood when drawn, is a guide of some value in these cases. If the blood is of a fiery red color, flows with a strong stream, and, after standing to grow cold, is formed into a hard clot, covered on the top with a layer of tough buff-colored jelly, or lymph as it is called, the abstraction of blood has been proper, and may, if the symptoms do not yield, be repeated. If, on allowing it to stand for several hours, the clot contracts, separating itself from the vessel, and drawing up its own edges like a saucer, the proof of the high inflammatory character of the disease, is the more conclusive. But if on the contrary, the blood flows in a weak stream, is dark in color, and coagulates with a weak, or easily broken dark colored clot, the degree of inflammation is small. Between these states of the blood, there are varieties which render the judgment more difficult. I think the safest side to err, is in avoiding to repeat bloodletting in doubtful cases.

*Purgatives*, are considered powerful remedies for the removal of inflammation. They are proper where there is much fulness of the blood vessels, and a torpid or inactive state of the bowels. They are used more freely where the patient is robust, and can bear depletion without injury. A very active cathartic for the reduction of inflammation, is composed of cream of tartar and jalap. Twenty grains of jalap, and a drachm of cream of tartar mixed together, and taken in water, is a common dose, and may be repeated according to circumstances. Epsom salts, senna and salts, Seidlitz powders, and other similar cathartics, are considered particularly suited to this purpose. These are powerful remedies for the removal of inflammation, but they are not to be used in every instance. When the intestines are the seat of inflammation, cathartics are with a few exceptions improper. But there are other cases, in which cathartics do not seem to benefit inflammatory diseases. In inflammation of the lungs, cathartics are always doubtful, and frequently improper. But with this and some other exceptions, they are used with great advantage in inflammatory diseases. In chronic inflammation, there should be constant attention paid to the state of the bowels, and cos-

tiveness prevented by the use of such gentle laxatives as may be thought advisable. But these general rules cannot be followed safely without some knowledge of the nature of the disease. The inflammation produced by rheumatism, differs as widely from that arising from pleurisy, as two diseases can well do; and the remedies proper in each, are to be suited to the case.

Mercury is a remedy of peculiar powers in cases of inflammation. It is not a mere cathartic, but exerts powers far greater than we should infer from its visible effects. It is to be given with the knowledge derived from experience, of its beneficial effect in particular cases. In the treatment of dysentery, we are certain that we have no other remedy of equal value; this is equally true in certain disorders of the eyes, and, in inflammation produced by syphilis, we can scarcely be said to have any other remedy. The best preparation of mercury is calomel, and it is to be given alone or combined with other remedies. It may be used as a cathartic, or as a mere alterative, according to the nature of the case in which it is administered.

Opium is also a remedy for inflammation. This may appear strange, when the great stimulating power of opium is adverted to. But this medicine is not a mere stimulant; it is also a powerful sudorific and anodyne. These properties give it a place in the treatment of many cases of inflammation, in which the pain and irritation are leading symptoms. This remedy is seldom used alone, but where active remedies have been given, and the patient, although he is much exhausted, is yet suffering from pain, a full dose of laudanum or Dovers' powder, will be found extremely beneficial. In combination with calomel, it has been found an invaluable remedy in many inflammatory disorders. But used alone, opium has also been found a powerful remedy in the treatment of the most painful inflammatory disorders. This is especially the case, where the disease is seated in any part of the intestinal canal; and the doses of this remedy, which may be given safely to persons suffering under these agonizing diseases, are to be increased in proportion to the intensity of the pain. In the treatment of violent inflammation, patients are often suddenly prostrated, even to fainting, by the use of powerful remedies or by excessive pain. Under these circumstances, we have no remedy that deserves to be compared with opium. The dose should be large.

Antimony has long been considered a powerful remedy in

the treatment of inflammation. The preparation of this remedy, which is now in the highest repute, is tartar emetic. The control which this medicine has over the circulation, is remarkable ; and its effect in reducing the most dangerous forms of acute inflammation, equally decided. It has been administered in these cases as an active emetic, and there are some who still administer it in this way, especially in diseases of the lungs and trachea. But a different mode of administering this remedy, has of late prevailed. "From the well known effects of continued nausea in depressing the heart's action, nauseating doses of tartar emetic are frequently administered in inflammation, in conjunction with other antiphlogistic measures. For this purpose, a quarter of a grain of tartar emetic may be given in solution every two or three hours. The first two or three doses generally produce vomiting, but afterwards constant sickness, is the only effect observed." In my own practice, I am in the habit of combining nitrate of potash with the tartar emetic, and forming the antimonial mixture which I administer in the same way. I think it a much more powerful remedy than the tartar emetic used alone. The doses of this powerful remedy are to be regulated by the endurance of the patient. As a general rule, it is desirable that nausea should be produced with little or no vomiting. The doses which will accomplish this, differ widely in different diseases, and in different individuals. It is said that after vomiting has been produced by it, the stomach will bear a gradual increase of the dose to a very large amount. This I have found to be the case in certain inflammations of the lungs, and in croup ; but I have never pushed the remedy to the extent I have seen it recommended by others. I have seldom given more than half a grain of tartar emetic hourly, and even this dose will not often be tolerated except in cases of croup. The addition of nitre gives to the remedy a decided increase of power, and does away the necessity of the gradual increase of the dose which has been so much recommended in the treatment of these diseases. The great benefit which is derived from the use of tartar emetic in the treatment of inflammation, seems to depend on the control it exerts over the pulse. This control seems to be independent of any depletion or exhaustion of the fluids of the patient. The good effect of the remedy is obtained, and the patient after it is withdrawn, is left in the possession of sufficient strength to bear its use again and again.

The local treatment of inflammation, ought not to be entirely omitted here. Besides the use of cups and leeches for the

abstraction of blood, there are many remedies which are decidedly useful when applied to the inflamed part, or in its immediate neighborhood. The most important of these is cold, used in the form of cold water or ice, powdered and secured in bladders on the part affected. The inflammation of the brain or other organs contained within the cavity of the skull, although deep seated, is beneficially treated by the application of cold water to the head. Pounded ice, secured in bladders and applied in the same way, is a more powerful and useful remedy. The same beneficial result, may be expected from the application of cold to inflamed parts generally. Where the inflammation has arisen from violence, such as luxations, wounds, and other accidents, the greatest benefit may be expected from the judicious application of cold. The same effect is produced by the application of spirits, ether, and other volatile fluids. The rapidity with which they evaporate, carries off the heat very suddenly, and produces all the beneficial effects of cold. Where the surface is broken, or tender organs, such as the eyes, are implicated, these applications produce great irritation and cannot be used.

But there are cases of inflammation, in which the application of cold, and other depleting local remedies, is improper. These cases, although attended with heat, swelling, redness, and pain, seem to depend on debility of the parts, and an interrupted circulation of blood in the veins. Erysipelas, scurvy, rheumatism, and several other diseases, furnish examples of this. Several deep seated organs, the womb and intestines especially, are often affected with inflammation and pain of the same kind. In all these cases, cold applications are exceedingly uncomfortable and pernicious; and the tenderness of the parts affected is so great, that the use of leeches or cupping cannot be endured. It is no easy matter to prescribe properly in these cases. As a general rule, warm fomentations, and warm poultices afford the greatest relief. But these important diseases, will claim from us more particular consideration under their appropriate titles.

---

## INFLAMMATORY FEVER.

I am in great doubt, whether I have taken the best course, in giving the above title to a class of diseases. Nature, it is true, has marked in strong characters, the fevers which attend



the high state of inflammation, which is often met with, in practice. The fever which attends inflammation of the lungs, inflammation of the brain, or inflammation of other parts when brought on by serious local injury, is, in its character, so marked and peculiar, as to deserve to be set off and distinguished from all others. Yet these diseases are so influenced by the parts they affect, and derive so many of their characteristic symptoms from the injuries done to these organs, that they are generally known by the organs they affect, more than by the character of the fever they give rise to. This "local habitation and name," which have by common consent, been assigned to these diseases; make it convenient to arrange other diseases of these organs in the same class. The diseases of the brain, for instance, cannot well be distributed in various parts of a book on diseases. Those of the intestines, and those of the lungs, have equal claims to be considered separately; and yet, all these may in their turn be the seat of inflammation, and the root and cause of inflammatory fever. It has therefore appeared to me best, to arrange these diseases according to their localities, and to give to inflammatory fever a very brief consideration in this place.

Medical writers have called all fevers with great heat and full pulse, inflammatory, whether they have arisen from the malaria of marshes or the typhous affection of jails and crowded ships. They have the best authority for using this term in this sense, and I shall not deny that they are right in so doing. Still I think it would be better, to confine the term inflammatory fever to the diseases attended with local inflammation. Such is the course I shall take, and without desiring to urge it on others, desire only, that I may be understood.

Inflammatory fever produces or arises from inflammation of some part of the body, and tends to the disorganization, or destruction of the part so inflamed. In its highest degree, it produces mortification, or death of the part affected; in its next, it produces suppuration; and lower degrees produce more gradual, but often not less dangerous disorganization. Great examples of inflammatory fever, attend inflammation of the brain or lungs; but the local causes which may give rise to a fever of similar grade, are without number. But there is a chronic, as well as an acute inflammatory fever, and what is more remarkable, the same disease produces sometimes one, and at other times, the other. Rheumatism, for example, produces the acute as well as the chronic inflammatory fever.

The symptoms of acute inflammatory fever, vary with the

organs affected. Violent and lancinating, or as it is sometimes called, stabbing pain in the organs affected, is the surest symptom. The fever which attends it, produces great heat, with a full, bounding pulse, restlessness and muscular pains in various parts of the body. These symptoms tend rapidly to the disorganization of parts, and the destruction of life. The fevers which attend chronic inflammation, are attended with a greater variety of symptoms. They are, however, very like the acute state of disease I have described, except that they are less violent. The state of the blood has still a closer resemblance in these varieties of fever. When it is drawn from a vein in a full stream in a vessel of moderate depth, the surface, on cooling, is covered with a yellowish pellicle, which has been termed the buff coat. This is equally present in the acute and chronic forms of this fever. The blood, however, in cases of long standing, becomes watery, and presents a small proportion of the solid parts of which it is usually composed.

I shall not attempt to make a separate list of the fevers, I consider inflammatory. Such a list would soon be embarrassed with doubtful examples. As a general rule, the fevers which depend on any local cause are inflammatory. But there are exceptions to this, as we shall see as we progress with the subject. There are other cases in which fever continues after the disorganization of parts has taken place, and a profuse discharge of matter has occurred. These fevers are termed hectic, and are the reverse of those called inflammatory.

The treatment of inflammatory fever, when met with in its acute form, is very much the same, whatever remote cause may have produced it. The few exceptions to this rule which it may be necessary to make, will be carefully pointed out. The fear of the disorganization of important parts, and the consequent destruction of life, demands the use of the most efficient and powerful remedies. By far the most important of these is bloodletting. It is to be used according to the emergency of the case, and to be repeated, from time to time, as long as the symptoms demand it. A sound discretion is to be used in regard to the extent to which this remedy is to be carried. The practitioner should never forget, that the blood withdrawn from his patient, can never be restored, and that there are besides bloodletting other important remedies for the arrest of inflammation. The young practitioner should be informed, that almost every physician, who has grown old in the profession, has used the lancet less frequently, as experience has taught him the sure reliance he may place on other

remedies. Next to the lancet, we may place cathartics. These, it is true, are not applicable to every case; but they are a powerful means of depletion, and when carried to a great extent, but little inferior to the lancet itself. They are to be used with equal care, that they are not carried to a dangerous extent. Emetics, especially tartarised antimony, form also a powerful means of arresting inflammation. The antimonial mixture, in which nitre is combined with the tartar emetic, is, in my opinion, the best remedy we have for ordinary attacks of inflammatory fever. It may be administered as a full emetic, or in nauseating or broken doses, according to the requirements of the case. These are the most powerful general remedies for inflammatory fever; but there are local remedies which are, in many instances; scarcely less important, than those we have mentioned. Where the seat of the inflammation is well defined, the application of leeches, or the withdrawal of blood by cupping, as near the parts affected as practicable, have been found very important. The application of cold by means of cold water or ice, it often more manageable, and often more efficacious; few remedies in our possession are of more general utility. I shall not enter into the consideration of the peculiar treatment of chronic inflammation. Its remedies are much the same with those used in the acute form of this disease, and require only to be regulated according to its degree. But there are many cases in which from the remote cause of the disease, particular remedies have been found useful. Mercury and iodyne are the most powerful of these alterative remedies. These, and other medicines which have been found useful in the treatment of chronic inflammation, will be pointed out in their proper place.

---

## DISEASES OF THE BRAIN.

The most interesting of the diseases which affect the human body, are those of the brain; for they involve not only health and life, but the mind, which is far more important than either. The brain, both in its structure and functions, differs altogether from other parts of the body. We can form no opinion of its uses from its appearance; and are still profoundly ignorant of the mode in which its functions are performed. It is agreed on all hands, that the brain is the organ of the understanding; and that all our senses, and all our rational powers, are brought

into activity and use in this organ. Some knowledge of the particular powers of certain parts of the brain, may have been obtained through the labors of the phrenologist ; but the knowledge so obtained has not yet been made very valuable in medical investigations.

The brain, placed in a closed bony case, extends beyond the cavity of the skull, down through its own channel in the spine. Considerable change takes place in the function it performs, after leaving the skull ; and something is known of its peculiar functions ; but even this has not availed us much, in treating diseases of the brain and the nervous system. Our knowledge of the whole subject must be acknowledged to be imperfect ; and yet it is still of some importance, and very worthy of attention.

---

### INFLAMMATION OF THE DURAMATER.

By this name we know the investing membrane of the brain ; and, as its diseases are often the result of accidents, which injure the skull and expose this membrane to view, we have better opportunities of investigating them, than where the disease is seated in deeper organs.

Inflammation of the duramater, is apt to rise and progress slowly ; even where the skull is fractured and this disease supervenes, the wound made in the skin is sometimes healed, before the inflammation of the duramater makes its appearance. I once attended a man who received a blow on the head with a stick ; the wound made in the skin healed up in about a fortnight, and there was no symptom of injury to the brain. He returned to his common employments, but at the end of three weeks, a dull pain in the part manifested itself. I was called to see him the next day, and found him sitting so stupid as scarcely to recognize me. The scalp where the wound had been inflicted, was a little puffed, and a considerable fever had already supervened ; he sunk in three days under coma, tremor of the muscles, and other symptoms of pressure on the brain. He died before a suppuration had taken place under the scalp, and no opportunity of a post mortem examination was allowed. This case is a common example of this particular affection, of the investing membrane of the brain. The leading characteristics of the disorder are, a dull pain, with great heaviness, succeeded by coma, and too often by death.



The remedies for this affection are by no means peculiar—they are those of inflammation in general. The treatment is to be begun by bloodletting, followed up with active cathartics and cold applications to the head, made by means of ice in bladders if it can be obtained, but if not, by cold water frequently applied by wetting napkins. A more efficient use of this remedy may be made, by shaving the head, and pouring water on it, by a very small stream from a foot or two in height. This is a most powerful remedy, and not to be persisted in, too long at one time; but it is to be recollected, that the disease is one that admits of no medium remedies; it is to be treated by those which are most powerful.

It is to be regretted, that the first symptoms of this disease do not often bring the patient to his medical adviser for a remedy—the danger is not sufficiently manifest. When the physician is consulted, the symptoms are sometimes too mild to excite his fears; it is therefore important, that, in these cases, the alarm should be taken sufficiently early. There can be no doubt that a salivation, could it be brought on in due time, would do more to arrest the progress of this inflammation, than any other remedy. Calomel should be given with the cathartic remedies already recommended, and it should be continued in such a manner as to produce a salivation, should the case continue long enough to admit of it. If the symptoms of the approach of this disorder become manifest before fever has supervened, the attempt to produce a salivation should be instantly instituted, by giving five grains of calomel once in six hours.

---

### INFLAMMATION OF THE BRAIN—PHRENTIS.

The brain is sometimes involved in general inflammation, though it has been disputed whether the proper substance of the brain, or its membranes and vessels, were the organs affected. The symptoms which attend this disorder, are such as are produced by pressure; but there are not wanting instances where similar symptoms are brought on, by the very reverse of this. Owing to its situation in the skull, the brain obviously admits of no enlargement by swelling; when therefore its vessels or membranes become inflamed, a violent pressure of the soft substance of the brain is a necessary consequence; its functions are deranged, the patient can respond to no question, and hence a very great difficulty in investigating

it. When from exhaustion of the fluids by lessening the quantity of blood, the brain ceases to receive a sufficient supply of this fluid, the mind also ceases to act, and fainting or stupor takes place; this has been called a collapse.

The causes of inflammation of the brain, are those which excite ordinary inflammatory diseases, such as cold, injuries &c.; but there are other causes peculiar to this organ; these operate on the senses or on the intellectual faculties. Exposure to violent heat, and the glaring light of the sun, has produced this disease sometimes with great suddenness; many have died, in this way, from what has borne the name of a stroke of the sun. Intense thought alone has, in some cases, been found sufficient to produce this awful disease; great application to business, especially when the excitement of failing circumstances is added to it, has sometimes been found a sufficient cause.

I have seen no mention of this disease as an epidemic, by any author; but I have certainly seen it prevail, from some general unknown cause, more than once. About as early as my memory of such a fact can be relied on, it prevailed in the neighborhood in which I lived, and destroyed several persons. The disease bore in the neighborhood the name of head pleurisy; and, in some of the cases, terminated fatally in about four days.

Since I became a practitioner of medicine, I have once seen this disease prevail in a similar way; there were not a great many cases, but I recollect being called to attend two which proved fatal; and there were several other fatal cases which I did not see. Now, in these instances I recollect no collateral disease or other circumstances, which could account for the occurrence of several cases of rare disease, like this, so near the same time. I conclude that there must have been some unknown cause, in the general state of the atmosphere.

The first symptom of this disease, is commonly a deep, intense pain in the head; the eyes are watery, and more or less red, the pulse full and bounding, the skin hot, and the tongue white. The disease, thus far, might not be known for inflammation of the brain; but soon a graver set of symptoms present themselves. A violent convulsion happening under such circumstances, is thought to be the most infallible sign of the presence of inflammation of the brain. A furious delirium comes on where convulsion does not; and coma, the certain, final result of delirium or convulsion, takes place. In this state, the patient writhes in agony, moving his limbs in all di-

rections, and breathing with a deep snoring sound. As the disorder progresses, the breathing becomes deeper and more convulsive, till, at last, the froth is thrown from the mouth, with an exhibition of agony scarcely equalled in any other disease.

These symptoms do not always occur in the order in which they are here set down, nor are they, by any means, all the symptoms which may be expected. In some instances, nausea and vomiting with the discharge of a large quantity of bile prevail; and throughout the whole course of the disease, costiveness is almost always present. In some instances, the mind seems, at an early stage, to sink into a sort of lethargy, with strabismus or cross eyes; in others, the pupils of the eyes are so contracted as to be almost obliterated.

Inflammation of the brain is an acute disease, sometimes running its whole course in two days, or less; but, in other instances, it has lasted for two or three weeks. But where cases terminate fatally, they finally bring on the characteristic coma, with twitching of the muscles, great agitation and too often death.

#### TREATMENT.

Bloodletting, purging and the application of cold, form the principal remedies for inflammation of the brain; they are to be used with a full sense of the violence and danger of the disorder, and with a knowledge, that if it is not arrested, life can hardly be expected to continue many days.

Bloodletting is to be resorted to, as soon as the nature of the disease is ascertained; and, although the symptoms may not be very violent, the quantity of blood taken should be considerable—two pounds are not an immoderate bleeding in such a case. The remedy is not to be lost sight of with the first use of it; but to be resorted to again in a few hours, or from day to day, as the emergency of these symptoms, and the strength of the patient may seem to demand. When blood has been freely drawn from the arm, and the symptoms do not yield, cupping on the temples, or leeches, may be beneficially used. It is not to be expected that the pulse will yield, in this disease, to the lancet, as readily as it does in others; I have found it, on the contrary, to resist the impression, and to remain full and bounding, even when the quantity of blood I thought it safe to take, had been drawn. The violence of the symptoms will, however, lessen with the flow of blood.

Cathartics are plainly indicated in this disease, and are justly held in the highest estimation. They do not operate

readily, and this forms the greatest objection to them. Croton oil is thought to be the best cathartic in these cases. From four to eight drops may be given every three hours, till it proves cathartic. I should give, with equal confidence, cream of tartar and jalap. Take a drachm of jalap, and half an ounce of cream of tartar; rub together and make into four powders; give one of these every three hours, till they operate as a cathartic. If four of these powders fail to operate, take half an ounce of senna, pour on it a pint of boiling water, and, when well drawn, strain off, and add two ounces of Epsom salts, give a wine glass full of this, hourly, till it operates. Having procured a free evacuation of the bowels by these active cathartics, give calomel in doses of five grains, four or five times a day, till the result of the case is decided, or till a salivation is brought on.

Cold applications to the head, are a leading and decidedly beneficial remedy; they are best made by pounded ice, put into bladders, and kept nearly all the time applied. It is only necessary to remark, that a material so cold should not be kept too great a length of time on the same spot, on one who is wholly insensible. It should be removed, but not in such a manner as to allow any part of the head to become obviously warm. Where ice is not at hand, cold water applied by means of towels, may be substituted. The douch of the Cold Water Doctors, may find, in such cases, a place for its beneficial application. I should, by no means, advise their system of throwing a heavy column of water, from a great height on the patient; but use a small stream from a pitcher, held a foot or two above the head. It is a powerful remedy, and should not be continued too long at one time.

By these powerful means, the patient is, in some instances, brought down to a very low point; in other instances, very rare I suppose, what has been termed a collapse takes place, and the patient is found suddenly pale and cold, with pulse scarcely perceptible, and in a state more resembling fainting than any thing else. The crisis is now at hand, and counter irritants may be beneficially used; blisters, or mustard which is more prompt in its action, may be applied to the extremities. If, on the application of mustard, the pulse does not, in a short time, rise, thirty drops of laudanum may be given. By such means, some have been snatched, as it were, from the grasp of death, but such examples are rare.

If by these means, the symptoms give way, and the patient is restored to a state of convalescence; every means should be



used to avoid a relapse ; the most perfect quiet should be observed for days, or even weeks ; the diet should be of the lowest or least stimulating kind ; and no exposure to unnecessary heat or intense light, should be allowed ; and if, under all these precautions, the disease should return, the same routine of treatment should again be adopted ; but with less activity, as the weakened strength of the patient will obviously require, and, it must be added, with less hope of success.

---

### DELIRIUM TREMENS.

This disease arises, in almost every instance, from the excessive use of alcohol, in some of its forms. The drinker of brandy is the most subject to it ; but wine, and even porter, has been known to produce it. It is not the result of a single debauch ; but is the evidence of a constitution exhausted by a long continuance of habits of sottishness.

The first symptom of the approach of this disease is sleepless nights ; the patient becomes impatient and restless, rising from bed long before day, and setting out in quest of his daily potation. If he retains his drink, and, by a little prudence, takes less than he had taken the day before, he will probably be rather better than worse, the next night. But the stomach is not commonly indulged in this way, with any alleviation of its labors, but is called on, from day to day, to receive larger and larger doses, till at last it rejects them altogether. The unfortunate man feels the approach of this peculiar insanity, and with great fear, and sometimes, apparently with the greatest degree of reluctance, forces himself to repeat the draught to ascertain if it will *stick* ; for as soon as he has retained a single draught, he feels himself safe for the day. It matters little how many days he shall be able thus to begin his career of drunkenness ; his stomach cannot endure forever, and the day arrives that he must face the horrors of the peculiar disorder which has acquired the name of delirium tremens, or delirium with trembling : and truly is he represented trembling and delirious.

The mind seems now more affected than the body ; the agitation of the sufferer can hardly be conceived ; his fear is intolerable, and when nothing assails him, he is still expecting evils in every shape. He distrusts whatever is said to him, and is commonly as regardless of truth, as he supposes others

to be. No matter what his original integrity, you can believe nothing he tells you in reference to his disease.

Nothing can be more grotesque than the fears which arise in the minds of men under these circumstances; sometimes their apprehension will suggest the approach of individuals to assail, injure or destroy them; but quite as commonly, they think themselves assailed by rats, or something still more harmless. I have seen a man under these circumstances, who supposed himself covered with vermin, and commenced throwing his clothes into the fire, and was with the greatest difficulty restrained from throwing in also his bed and bed clothing. As the disease grows worse, there is great danger that the patient will commit suicide; but towards others, he is commonly harmless, and indeed cowardly. It is seldom that the first attack of this disease proves fatal; and quite as rare for the inebriate who has brought himself to such extremity, to reform—he will abstain for a time, under many promises, which are too apt to be broken.

This disease has been thought to bear a close resemblance to inflammation of the brain; indeed it is thought to be frequently productive of more or less inflammation of that organ. To me it appears much more to resemble madness; and, in many instances, the delirium, if it is delirium, bears every analogy to monomania. There can be no doubt, that, in extreme cases, the brain becomes seriously disordered; but I must think that a true inflammation rarely arises in the brain of one whose sensibilities have been exhausted, to the last degree, by intoxication. It is true, that in this stage of the disease, violent convulsions are frequently brought on, and the patient runs into a deep state of coma; but, even here, I would sooner think that the coma was rather a result of collapse, and prostration, than of inflammation.

Writers have stated that this disease is sometimes of a mixed character, presenting a true state of inflammation of the brain, with delirium tremens; but I must think such cases exceedingly rare.

#### TREATMENT.

Several modes of treating this disorder have been proposed, and each has, perhaps even now, its advocates. Some give emetics, others alcohol, others forbid all remedies, and advise rest, quiet, and darkness. But the best authorities concur in the use of opium, as almost the sole remedy in delirium tremens. This has been, for many years, my practice; and I

have had every reason to be satisfied with it. The disease seems to be brought on by an inability to sleep, and by the use of opium we procure this great requisite of nature—we produce sleep. The patient should be given two grains of opium at once, with a direction to take one additional grain, every three hours, till he drops to sleep. Laudanum may be substituted for opium, without any inconvenience; from forty to sixty drops may be administered at first, and followed with doses of twenty drops, till the same end is accomplished.—When I have been called to an individual who had just had a violent convulsion, I have administered a tea spoonful of laudanum, as soon as the patient could be gotten to take it; and, in the event of being unable to procure its administration otherwise, I have directed three tea spoonsful, in a gill of water, thrown up as an injection. I have had the greatest reason to believe that this remedy was exceedingly useful. Now, if there are cases in which there is present an inflammation of the brain, which would forbid the use of opium, the cases attended with convulsion would seem to be of that sort. It is true, such persons often fail to recover from the coma, and die, leaving on the minds of some a suspicion, that the laudanum which may have been used, was instrumental in producing the death; still I have no hesitation in preferring this remedy in this case. If the patient will die under the use of laudanum, he will unquestionably die without it.

Very little variation in the practice is necessary, in different cases of this disease. The only variation which it is important to recollect, arises from the fact, that the patient has been long accustomed to his daily potion of alcohol, and that, at first, it may be dangerous to attempt to withhold it altogether from him. I have, in numerous cases, on finding my patients resist the force of laudanum in such doses as I thought it safe to prescribe, given a portion of brandy with the happiest results. In such cases I have given about three ounces of strong spirits, with thirty drops of laudanum at a dose, and have found it succeed, after doses of three grains of opium had failed.

Having once produced a quiet sleep, we consider the main point gained in the treatment of this disease; if it is a first attack, probably nothing further will be required; but, in bad cases, it appears almost impossible for the patient to get along without some stimulant. The best, by far, would be alcohol, in daily diminished doses; but this is almost certain to restore the habit which it is our greatest object to destroy. I there-

fore advise every means which can be used to avoid all spirituous or fermented liquors. When the stomach is not so disordered as to hinder the digestion of food, he should be advised the use of rich and highly spiced soups; and, without much delay, the use of the richest animal food. These are the safest and best stimulants, and are commonly sufficient. Where they prove insufficient, and are rejected from the stomach, I advise other stimulants. Camphor, combined with opium, may be used in these cases. Take an ounce of spirits of camphor, and add to it a tea spoonful of laudanum; give thirty drops of this, from time to time, so as not to exhaust the whole in less than two or three days. Other convenient stimuli may be adopted in place of these; and, if the patient *has a will to be well*, he will not return again to his beverage of alcohol. But the great difficulty lies in giving to the will, power, and control in the matter. A man in this perishing condition has no will of his own.

---

### DROPSY OF THE BRAIN—HYDROCEPHALUS.

This disease, although exceedingly dangerous, is not always incurable. That it may be cured, it should be known at an early period, for it soon progresses to a stage in which there is little hope of benefit from remedies. Its premonitory signs are therefore very important, although it must be confessed they are often surrounded with much doubt and difficulty. The disease attacks principally children, most frequently during the stage of dentition; but sometimes a few years later. I have never met with it in a child more than six years of age.

We are told that scrofula is the great pre-disposing cause of dropsy of the brain, and that the disease is frequently met with in scrofulous families, destroying several children in succession. Happily there is a great portion of the earth not much subject to the prevalence of scrofulous disorders; in the Southern States, in which my observations have been made, scrofula is comparatively rare.

Dropsy of the brain has never, within my observation, appeared to be a family disease; I have never met with it even in two children of the same family. The chief cause of dropsy of the brain, where I have seen it, has seemed to be teething, or the diseases arising from it. In a few instances, I have witnessed it in children who had, several years, passed the age of



teething, and enjoyed a reasonable portion of health. In these, the disease had come on without any obvious cause. Besides these causes, it may be well to mention injuries of various kinds, such as falls, bruises, surgical operations, or any thing, indeed, which is calculated to produce inflammation of the brain.

#### SYMPTOMS.

Dropsy of the brain arises from inflammation of that organ, and is consequently characterized by the same symptoms. Its attack is sometimes sudden, but more frequently gradual. When its attack is sudden, which may be in the midst of fever, with disordered bowels, the onset is apt to be with convulsions. These convulsions are not characterized by any thing peculiar ; but the child, after they pass off will be found with its eyes fixed across, great tenderness, and inability to bear the light ; probably total loss of sense, clenched fists, with writhing of the body, and great agony. These symptoms, if the disease is not promptly arrested, go on increasing, and terminate fatally in a few days.

But it is in the cases in which the onset of the disease is slow, that it is most important our investigations should be made with care and success. The patient is commonly already in very reduced health ; in almost all the cases I have witnessed, great disorder of the bowels, the summer complaint of children, has already reduced them comparatively low. Writers inform us that a tenderness of the abdomen is commonly the first symptom ; I have not noticed this symptom, but have first observed the child with more fever, and a more frequent, rapid and bounding pulse, than its other symptoms would render probable. If it has its senses, it will describe a pain in its head ; if not, it will frequently start from its sleep, springing suddenly up with clenched fists, the thumb being commonly drawn violently down into the hand. These paroxysms pass off, and some degree of dulness is observable ; the child will soon desire to lie down, and this soon becomes the leading symptom. The child will struggle to escape from the arms of its mother to its bed, where it will seek to place its head as low as possible. Days frequently pass under these circumstances, the child not manifesting much disease, seeming to be only dull and inanimate, and claiming all the time its place in bed. To these symptoms, those of greater irritation begin to be added ; some stiffness is found in the neck, and tenderness over the scalp, which forbids the handling of the

head; nausea and vomiting succeed, and the eyes, on a close inspection, are found, one or both of them, more or less distorted. These symptoms constitute the first stage of the disease, they are frequently met with successful remedies, and ought by all means, to be carefully watched, and referred to the ablest counsel.

Great pains have been taken, in pointing out the various stages of this disease, and their proper symptoms. To me it seems sufficient to add, that the symptoms which characterize heavy pressure on the brain, by the effusion of water into its ventricles, constitute a last stage of dropsy which need not be divided. The vision of the patient seems first to give way, and the eyes become distorted, the understanding fails, and it responds to nothing said to it, or done for it. Its breathing becomes heavy, and restlessness and agitation of its limbs, become conspicuous. The action of its bowels becomes involuntary, and it has frequently, convulsions. Several weeks sometimes elapse before death—which should now be most welcome—closes the scene.

#### TREATMENT.

In the treatment of this terrible disease, great liberties have been taken with the powers of nature, and a great variety of opinions expressed in regard to the effect of remedies. While some have held that it was curable, in one out of three or four cases; and a few cases have been published of a rescue, from what would appear to be the last extremity of the disease, others have held that after the effusion of water into the ventricles of the brain, there remained not a shadow of hope; because there are no absorbents provided by nature for the taking up of such effusion. I have no doubt that the medium opinion is, in this, as in most other arguments, the safest, and nearest to truth. Like consumption, dropsy of the brain, when it has proceeded to a certain point, is incurable; but, at an earlier stage, I have no doubt remedies are often used with entire success. That success may attend the use of remedies, they should be used efficiently, and at an early stage; and, although at this period, it is doubtful whether the symptoms justify the belief that a watery effusion in the brain has taken place, we are sufficiently rewarded if relief is obtained, although the fact that it was really a dropsy of the brain may be controverted.

In the first stage of the disease, while the pulse is rapid and

full, the patient's senses not destroyed, but great heat about the head, and other symptoms of fever, show the bad tendency of the disease, bloodletting, by means of leeches applied behind the ears, or at any point nearest the hairy scalp, will be proper. This prescription is suitable where the child is small, under two or three years of age, and where a small number of leeches will be sufficient. Three or four will be enough to apply at one time; and if they are large, and blood flows freely from the bite of one, perhaps it may prove sufficient, without the application of others. I object to the copious abstraction of blood recommended by some, in these cases. It should be recollected, that bloodletting is not the only evacuant intended to be used; and that patients are commonly a good deal reduced before this remedy is called for, by the appearance of this disease.

Cathartic medicines form the next, and I may say, greatest reliance of our patients, in this disease. Calomel and jalap has received the highest commendation of any remedy at this crisis; and I fully concur in the high opinion given of it. Take twenty grains of calomel and sixty of jalap; rub together and divide into eight powders; give one of these powders to a child two years old, every four hours, till they operate as a cathartic. A single one of these powders may be well considered an active cathartic, for a child of so tender an age; but the torpid state of the bowels, which so generally attends dropsy of the brain, fully authorizes us to begin with the efficient doses recommended; and should they prove insufficient, they may be doubled. This is far short of the amount of cathartic medicines which have been recommended, in this disease; but a single cathartic will hardly end the treatment, of a case of this kind, and a remedy so active may not be safe to repeat every day. It is better, therefore, after twenty-four hours, to substitute some other cathartic; and I should prefer senna and salts to any other; this purgative should also be given in broken doses, so that too much may not be given at once.

The nausea and vomiting which sometimes attend this disease, have been a source of great embarrassment in its treatment. Frequently every cathartic medicine is rejected almost, as soon as swallowed; in these cases, I have given, with great satisfaction, the antimonial mixture. Take of tartar emetic two grains, nitrate of potash two drachms, dissolve in eight ounces of water, and give a tea spoonful every half hour, till it operates as an emetic. This prescription is for a child two years old; and the dose is to be lessened or increased, as

the patient may be older or younger. And, although the patient may, at the time, be throwing up even a mouth full of tea; it will probably retain the antimonial mixture, till it has taken several doses, when it will operate as an ordinary emetic. After this, cathartic medicines may be administered with ease and success. This use of tartar emetic, for which I believe I have no authority but my own experience, should not be persisted in, if it begins to operate as a cathartic; but even in that case, I have found it to do more to quiet the stomach, in these cases, than any thing else.

The application of cold to the head, will suggest itself as a matter of course. We are directing the treatment of an acute inflammation of the brain; not one, however, which threatens the formation of abscess, gangrene or other ordinarily fatal terminations of inflammation; but a watery effusion, which is to be prevented by the suppression or putting down of the inflammation, before this effusion takes place. Cold applications, therefore, are as reasonable, as they have been proved to be beneficial. The best mode of making them, is by means of pounded ice, put in bladders, and laid on the head, which should be frequently turned from side to side, or the bladders removed from one place to another, so that too intense a degree of cold may not be produced on any given point. In the absence of ice, linen cloths dipped in cold water, may be applied. This remedy should be persisted in for several days, during the first stage of the disease. It may be dispensed with, when the heat of the patient no longer seems to require its use, or after the disease has subsided.

We have mentioned the use of calomel, in combination with jalap. as a cathartic, in the first stage of the disease. Great faith is attached to it, in the later stages, when it is to be given in broken doses, so as to produce its peculiar constitutional effect, either in producing salivation, or deep green bilious passages from the bowels. To this end, take of calomel six grains, cream of tartar thirty grains, divide it into eight powders. Give three or four of these powders, a day, in syrup. This may be continued, from day to day, as long as the symptoms seem to demand it.

Blisters and diuretic remedies, especially squills, would seem to have a proper place in the treatment of this disease. I have no doubt they would be beneficial, and should be used in protracted cases; but I have but little experience with them, because the cold applications which I have deemed it so important to make to the head, have excluded the one, and the



constant use of cathartics which are considered still more important, have hindered the use of the other.

## SPURIOUS DROPSY OF THE BRAIN.

A great difficulty in treating the diseases of the brain, arises from the fact, that the most opposite conditions in which it can be placed, produce symptoms almost exactly alike. Violent pressure on the brain, produces coma, with total insensibility; while the absence of the necessary healthful pressure to which the organ should be exposed, produces fainting, with the loss of sensibility, scarcely distinguishable from coma. The physician should be always on his guard against mistaking one of these cases for the other, for their proper treatment is as opposite as their causes. The dropsy of the brain, of which we have been speaking, is attended with great pressure; and we have given an account of the remedies which are proper for its removal; but sometimes children are attacked with the same languor and drowsiness which attend dropsy of the brain; and, in some instances, it is said that frequent faintings with spasms or convulsions, take place; but, in these cases, there is an absence of fever, and commonly the presence of collateral circumstances, which should place us on our guard against mistaking the nature of the case. If these symptoms happen immediately after a profuse discharge of blood, or after the excessive or violent operation of cathartic medicines, they may be well suspected of arising from the absence of due pressure on the brain from the circulating blood. If at the same time the extremities are cold, and the pulse feeble, and the symptoms are aggravated by attempting to support the child in an erect posture, we may be almost certain, that the disease arises from the cause under our present consideration—that it is indeed a spurious dropsy of the brain.

The remedies for this state of things, especially when, it has occurred from any sudden cause, are obvious. The patient should be supported by the use of powerful stimulants, and seasonable nutrition. If the patient appears to be in immediate danger of death, administer a dose of laudanum, four or five drops to a child two years old. Make a tea spoonful of strong brandy into toddy, and administer that as quickly as possible; warm applications should be made to the extremities, and, if the feet continue cold, let them be bathed in water containing a portion of mustard, or a strong tea of red pepper. If, under these means, the child revives, and recovers its sen-

ses, some nourishment should be given it ; and, if it takes it with a reasonable appetite, there is strong reason for believing the case may be successfully treated.

After the patient is, in some degree, revived, a system of a stimulating and supporting kind, is to be adopted. Sulphate of quinine may be beneficially used, for a day or two ; half a grain may be given to a child two years old, once in four hours. Preparations of iron may be substituted, or used after the quinine has been laid aside. Five drops of muriated tincture may be given in water, three times a day. Other preparations of iron may be tried—the precipitated carbonate is among the best—three grains of this may be given in syrup, three or four times in twenty-four hours. A generous and nourishing diet should accompany the use of these remedies.

It is now believed that cases of this description, have happened more frequently than medical men have supposed. It is obvious that the danger attending them will be increased by the use of bloodletting, and the active cathartics of which we have spoken ; while the stimulating and supporting plan we have recommended, give a very fair promise of success. Several authors have reported cases treated with entire success, by the stimulating plan of which we are speaking ; and I have no doubt that such cases would be fatal, under a different treatment. It is, therefore, exceedingly important, that physicians should be guarded in their prescriptions for these disorders of the brain.

#### CHRONIC DROPSY OF THE BRAIN.

The vitality and delicate structure of the brain, have taught us to regard the least invasion of it, with the greatest fear ; but diseases sometimes prove our instructors in matters of this description. The brain is susceptible of very great alteration in its position and dimensions, without the destruction of life. This happens in the disease under consideration, in a manner truly wonderful ; the head is sometimes enlarged by the pressure, or distending force of its dropsical contents, to two or three times its natural size. Great influence is sometimes exerted on the functions of the brain ; the mind is sometimes destroyed ; in other instances the senses are only deranged ; but in others, to the wonder and astonishment of every one, the functions of the mind remain, and are but little impaired.

Chronic dropsy of the brain is an exceedingly slow disease, commencing, in some instances, before birth, but liable to hap-

pen at any stage of life. It is not considered as an inflammatory disease, but may exist while the patient enjoys, to all appearance, a tolerable degree of health, for an indefinite length of time. It has been known to have existed from childhood, in a man who lived to reach his thirtieth year.

When dropsy of the brain makes its appearance in infancy, the head of the child takes on suddenly, an extraordinary growth and development; the natural openings of the skull are enlarged; and, in many instances, the bones are totally separated and may be felt, as it were, attached to the scalp—each one in its place, the whole head having a bladder-like softness. In the mean time, the bones of the face remain unaltered, and a strange angular appearance is given to the features; the child ceases to be able to support its head, and is, in many instances, seen to do so by the aid of its hands. In this stage of the disease, many severe and awful symptoms take place; convulsions are very common; paralysis of various parts of the body, blindness, deafness, and often death occur. But where life is not destroyed, the patient will be found to recover, in some degree, from the worst of these symptoms; the bones of the head will grow, so that they will meet, and, by degrees, form a new bony case, of enlarged dimensions, and various degrees of deformity. In some instances, the union of bones is perfect, and the child recovers to a considerable degree of health, with its head so large, that it is wholly unable to hold it in an erect position. By degrees the muscles of the neck gain strength, and the little patient is seen, with great effort, to hold itself erect, and sometimes to walk, carrying its head with great labor, supported by its hands, as a child might do in carrying a heavy pail of water.

The vivacity and health of some of these children, are truly surprising. I once attended one who recovered, and had a final consolidation of the bones of its skull, with its head nearly twice the natural size. It was now about three years old, but unable to sit up, much less to walk; yet it had perfect use of its hands and feet, and, apparently, a considerable acuteness of understanding. It was the child of a poor man, and I felt interested in making the experiment of laying a piece of gingerbread eight or ten feet from it, to see how it would reach it. Its mode of travelling was by rolling, and its head, being so much larger than its body, made a progress much more rapid than its feet, which threw its line of motion on a circle. This however proved no impediment to the little fellow's reaching his bread; for he would place his body on such a line,

that he knew the circle of his motion would reach the object of his pursuit, when he would throw himself into a rapid rolling motion, and reach his bread about as soon as any crawling child could have done. This child acquired, by degrees, the power of raising its head, and emigrated, in apparent health, to a place so distant, that I have not since heard of it.

Chronic dropsy of the brain, is not always a disease of children ; it sometimes happens even in old persons. The case of the celebrated Dean Swift, is known to literary men. He died of this disease at an advanced age ; having for many years experienced some disorder of the brain. The symptoms by which it may be known in grown persons, are not very evident. The pressure on the brain which would arise from the accumulating fluid, would produce symptoms easily recognised ; but the exact nature of the cause of that pressure, could not be readily ascertained. Yet, in the case of Swift, which has been alluded to, the character of the contents of his skull seemed to have been comprehended ; for it is stated, that trepanning for the purpose of letting out the water, was suggested by one of his friends, but not adopted by his physicians.

#### TREATMENT.

It would seem to be nearly impossible to remove chronic dropsy of the brain. Indeed, I could hardly promise myself much success in the treatment of such cases ; but we are taught, by those who have most experience, and are of undoubted veracity, that great benefit, and, in some instances, entire relief, has been obtained by the use of remedies, in this disease. The remedies are in no wise peculiar, but are the common remedies of dropsy. It is to be recollected all the while, that the disease may continue indefinitely ; that it affects the health of the patient even less than other dropsies ; and that the remedies are not to be persisted in, or pressed to a dangerous degree of activity.

The first remedy recommended, is bloodletting ; and this should be performed by means of leeches. It should not be repeated more than once or twice, and the leeches used should not be more than three or four at a time.

Calomel, in combination with squills, is the next, and, I am persuaded, a great deal the most important remedy. Take of calomel ten grains, squills twenty grains, divide into twelve powders. To a child two years old, half of one of these pow-



ders may be given in syrup, and repeated twice in twenty-four hours. This forms a reasonable amount of the remedy ; and it may be continued for a considerable time, if it does not produce salivation, or operate too actively on the bowels. If it produces salivation, it should be immediately suspended ; and, if no amendment attends it, the remedy should be abandoned. But if, from a diligent attention and admeasurement of the head, the disease is found to give way, and the head to lessen, the remedy is to be laid aside only for a time sufficient for the symptoms of salivation to abate. It should then be resumed and persisted in according to circumstances.

A more active use of calomel and squills has been tried, and, in some instances, thought to have acted beneficially. The remedy, in this case, is used as an active diuretic, and cathartic. The doses I have mentioned should be doubled, and repeated at shorter intervals, so as to produce copious discharges from the bowels, and by way of urine. Great prostration will attend this course ; but there is reason to believe, that the swelling may be reduced by it, when a more moderate use of the same remedies would fail.

When, by these means, the patient is greatly relieved from the swelling, and the absence of fever admits of the use of tonic medicines, preparations of iron should be administered. Five drops of muriated tincture may be given in water, two or three times a day. Generous food, in moderate quantity, may also be allowed ; and there is reason to hope, that, even in these desperate cases, a perfect cure may be thus accomplished.

There are yet other remedies which may be used in dropsy of the brain. Pressure, which would seem to be the least applicable where its action must be immediately on the brain, has been found very beneficial, in some cases of this disease. It is easily made by means of a roller passed around the head, with occasional turns under the chin and over the crown ; but this is obviously not a very equal, or perfect mode of applying pressure to the head. Many contrivances have been resorted to, to accomplish the object better ; but I have had no opportunity of trying them, and should apply the bandage, with due care not to make the pressure so great as to destroy the senses of my patient. It is asserted that pressure used in this way, has, in many instances, proved exceedingly beneficial. It should be tried with watchfulness and care, and abandoned if found not beneficial.

Tapping has been found a remedy of some value, in extreme cases of this disease. The fluid contents of the skull

have been let out by a trocar or even by a common lancet. The remedy cannot be recommended except in extreme cases, and where death, without its use, would seem to be impending. In some instances, there would be but little difficulty in performing the operation; for the water approaches so near the skin, that the head, when placed in the sun under favorable circumstances, has a transparent appearance. The delicacy of the brain is such, that this operation should never be attempted except by an experienced surgeon, and anatomist—it is sufficiently dangerous even in the best hands. The fluid extracted should not be considerable at one time; but the flowing should be checked, and renewed, from day to day, till the whole is discharged.

---

## DISEASES OF THE EYE.

This organ, so exceedingly important in the purposes of life, and subject to some of the diseases which call for the most delicate and important operations in surgery, is yet subject to many disorders which call for ordinary medical prescriptions. I shall not attempt to go extensively into the consideration of these diseases, but satisfy myself with describing only such as are of frequent occurrence, and do not require very important surgical operations.

---

## INFLAMMATION OF THE EYE—SORE EYES.

The membrane which lines the eye lid, and is reflected over the eye ball, up to its transparent part, is very subject to inflammation from cold, or other common causes. It is also subject to be inflamed by the irritation of matters thrown into the eye, whether from their caustic properties, or rough, hard and pointed forms. This inflammation, in common cases, limits itself to this thin membrane, and does not penetrate into the substance of the eye, or even into its coats which lie immediately in contact with the part affected. The disease is, in itself, very slight; but the interruption which it produces in the uses of the eye, and its contact with an organ so exceedingly important, make it a subject deeply interesting to the sufferer; and, from this cause, it is very commonly brought to the atten-

tion of the physician. When the disease extends to the deeper seated tunics of the eye, it becomes exceedingly dangerous, and should, with great care, be discriminated from the mild disease, we are now considering.

It will not always be in our power to assign the true cause of inflammation of the eye. It has been suggested that exposure to cold, and injury from caustic or mechanical substances, were the most common causes; but there is sometimes, in the atmosphere, a cause entirely different from these—an epidemic constitution of the air. This is not very often present, and never, so far as I know, extends over very extensive districts of the same country at the same time; but I have, in several instances, seen the disease so common, and extending to so many persons who could offer no reason for the attack, that I think there can be no doubt, in assigning to it an epidemic character.

The first symptom of sore eyes is an itching, commonly of one, but sometimes of both eyes. The patient is observed to be rubbing the eyes almost incessantly, while the tears begin to flow, requiring to be wiped away. Very soon a pricking sensation, as if sand or some small substance had got under the eye lid, and every motion of the eye or the lid produces most rasping and painful sensations. So strong is this feeling, that it is often impossible to convince the patient that he has not got some foreign body in the eye; and he will require search to be made for it. The pain is however slight, and even light is yet tolerated by the eye. The tears do not long continue to flow, and the lids become gluey, and disposed to adhere together at night. The vessels of the eye become loaded, and the whole organ, except its transparent part, becomes exceedingly red, sometimes blood-shot. The secretions of the eye itself become thicker, forming at first a transparent mucous; but, after a while, the discharge is more or less colored. The swelling does not extend to the eye lid, and when the case is well treated, although the disease may be sharp and painful, the eye is in little danger.

#### TREATMENT.

This disease is a simple inflammation; but it affects a part in which inflammation has a limited degree of activity. Prudence requires, in these cases, the strictest avoidance of every thing which might aggravate the disease. The patient should withdraw from his ordinary pursuits; place himself in a room sufficiently obscured from the light, and of a temperature rea-

sonably cool. A dose of some light cathartic should be given, a few grains of calomel followed by a Seidlitz powder, or castor oil, will answer as well as any other. His diet should be spare. By these remedies and restrictions the disease often, without any other treatment, will soon pass off.

The local remedies which should be used in this inflammation of the eye, have been a matter of much controversy, and even yet, can hardly be said to be agreed on. Astringent substances have long been applied to the eyes, in this disease—alum has been the most extensively used. In this country it is very common to take the white of an egg, and rub into it a sufficient quantity of alum to make it into a firm coagulum, or curd. The eye is closed and this curd bound over it as a poultice. In place of this, medical men have been in the habit of making an eye water, from sugar of lead and sulphate of zinc, or white vitriol. Take of sugar of lead thirty grains, white vitriol ten grains, dissolve in two ounces of water, let it be shaken together and set by, till it has become transparent—it should then be poured off without shaking, into another phial for use. Let the patient turn his head back, and drop a drop or two of this solution in the eye, taking care that the position of the head is not so changed, that the remedy will run off, without entering the eye: the patient should then be requested to endeavor to open the eye, and if he cannot effect it, the lids should be raised by the finger of his assistant. He will be sensible when the solution has passed under the eye lid, and for sometime some smarting will follow it. It is useless to multiply examples of these astringent eye waters. Those we have mentioned are as good as any other. I have but a word of counsel to offer on their use, and that is, that they should not be used within the first two or three days of the attack, for I can say without any hesitation, that when used too early they aggravate the disease.

If the mildest course of treatment is resolved on, it is to be found in cool application, made by means of a bit of linen dipped in cold water, and kept constantly on the eye. A mild poultice made of corn meal and applied cold may be substituted; or, if it can be easily procured, the bark of slippery elm, the best of all poultices, may be tried. This course of treatment should be pursued for two or three days; after which a cautious use of the astringent remedies which have been mentioned, may be made. The eye water of sugar of lead and vitriol, may, for example, be reduced to half its strength, and used morning and evening.



For many years I pursued the above mode of treating sore eyes, and was satisfied with the general safety to the organ, and the reasonably short time of the cure ; but I may not quit the subject without stating that the treatment of this disease has of late been greatly altered, and, as I think, improved. I shall offer the new remedy, with the observation that since its promulgation, it has not occurred to me to test its use in a great many instances. Where I have tried it, I have been well satisfied with its effects, and do not hesitate to recommend it. This improvement in the treatment of a harrassing and painful disease, has the great advantage of being exceedingly simple, requiring very little discrimination as to the time at which it should be used.

The new remedy is the common, though powerful styptic, nitrate of silver, or lunar caustic. Four grains of nitrate of silver are to be dissolved in an ounce of water ; if the water is impure and forms a white cloudy solution, the quantity of the caustic should be increased to five or six grains. This solution is to be dropped into the eye, and care taken that it passes to every part of it. The pain which attends it is for a moment sharp, but passes off in a few minutes. This powerful remedy may be justly pronounced less painful than others which seem exceedingly mild. Its beneficial effects will be presently obvious ; the sensation as of gravel in the eye, will cease, and the symptoms will be altogether moderated. The remedy should be repeated daily, as long as its use seems to be required. But, in many instances, after six or eight hours from its use, the symptoms of the disease will return, the patient will again feel as if sand had got into his eye ; in such cases the remedy should be repeated even twice or thrice a day.

This simple mode of treating common sore eyes has been found so efficient, that it has in common cases caused the abandonment of every other means of cure. I think there should be no longer any hesitation in bringing it into common use. I consider four grains to the ounce a weak solution of caustic. I have used it ten-times this strength.

---

## PURULENT INFLAMMATION OF THE EYE.

When the deeper seated tissues of the eye become inflamed, the disease has been called purulent, because of the extensive formation of pus or matter which takes place in it. The seat of this inflammation is the solid coats which compose the wall

of the eye, and which form what is commonly called the white of the eye. The disease, in its severest form, involves almost the whole organ, except the nerves and internal structure. It is exceedingly violent, painful and dangerous.

The inflammation of the eye which we are about to describe, does not attack, in the first instance, the superficial vessels which are inflamed in common sore eyes, but the deeper seated vessels which, in health, circulate only the white or transparent portions of the blood. On inspection, the white of the eye will appear to have acquired a reddish or pink color, and the vessels will be seen passing, like rays or hairs, around the transparent portion of the eye. A sense of tightness and pain is felt in the globe of the eye, which looks heavy and watery; and I have seen, in a very early stage of the disease, a reddish tinge of the watery humours contained in the eye. As the disorder increases, the pain becomes worse, and extends to the head, where it is felt throbbing with great violence; it progresses with considerable rapidity, and fever is soon brought on. The swelling extends from the eye to its investing membranes, and then to the eye lids which soon become closed, so that they cannot be easily opened. In many instances, matter forms under the lid, which cannot escape through the opening in the eye till it is raised, and then it gushes forth in considerable quantity. In two or three days the suppuration is commonly at its height, and great mischief is taking place in the coats of the eye. On examination, a fissure or furrow will be seen passing around the edge of the transparent part of the eye, which sometimes passes through, allowing the fluid contents of the eye to escape—in other words the eye bursts. In a few instances, matter forms within the globe of the eye, and after the disease has subsided and the eye opened, the pus is seen in the bottom, while the upper part of the chamber is transparent, admitting of the passage of light; but the vision is destroyed.

This form of inflammation of the eye, is sometimes induced by the accidental or incautious contact with the matter produced in gonorrhea. It is epidemic in the glaring sunny districts of the East, and is justly a greater source of dread to the armies of Europe when invading Egypt and certain districts of India, than the plague or the cholera. It has been disputed whether the disease is contagious; and, still more, whether it is so infectious, in any instance, as to arise from coming too near to those affected with the disease. Circumstances have led to the belief that the disease will be propagated by contact with the matter it produces. And care

should be taken, that the eyes of the well are not touched with the matter which has been produced by the disease.

#### TREATMENT.

This disease is to be considered one of extreme danger, not indeed to life, but to an organ almost as dear as life. Unfortunately the physician is seldom called till the disease has made too much progress to be successfully arrested; for the disorganization which is fatal to the functions of the eye, sometimes begins within a day or two of the commencement of the disease. But the maxims which govern in the treatment of the disease, are founded on the supposition of its high inflammatory character, and the knowledge, from experience, that unless the remedies applied are of great power, very little effect can be reckoned on, from them. The first remedy to be employed is bloodletting; and it should be employed promptly, and copiously, not to excite fainting, but to reduce the quantity of blood—from one to two pounds should be taken. This remedy has been found, on great experience, less to be depended on, than might be expected; but still, experience has not supplied us with a better. Cathartic medicines have been extensively used, and should be of the most active kind. Twenty grains of jalap and a drachm of cream of tartar, may be given, every two or three hours, till it operates as a cathartic. Other and milder cathartics may be used; but there is no necessity for pointing them out. Cooling poultices applied over the eyes, will be found beneficial; but I object to the use of such astringents as alum, sugar of lead, or white vitriol. Blistering behind the ears, or at the nape of the neck, has been found beneficial. Emetics have not been recommended, from the fear, that in the action of vomiting, a particular force might be given, which might tend to the bursting of the globe of the eye, when ulceration had taken place. This fear, I think, rests on but a feeble foundation; and I should not hesitate to commence with the antimonial mixture, immediately after the operation of the cathartic. The mixture should be given in such doses as will not operate as an emetic; but should it do so, it will not increase the danger. It may be repeated, from time to time, while the high and inflammatory state of the disease seems to require it. Some have recommended calomel, and rubbing with mercurial ointment, for the purpose of inducing salivation; but the mischief which arises from this disease, happens too suddenly to admit of our relying on such a

remedy ; the eye will be destroyed before the salivation takes place.

The great benefit which has been derived from the use of lunar caustic, in common sore eyes, has pointed it out with great favor, as a remedy in the disease under consideration. It should be used of greater strength, and forced into the eye by means of a small syringe. Take ten grains of lunar caustic, and dissolve it in an ounce of water, to be used in this way, as an injection in the eye. Since I have witnessed the effects of this remedy in minor cases of inflammation of the eye, I have had no occasion to test its efficacy in the alarming cases of which we are speaking ; but I should not hesitate to use it, should the necessity for it present itself.

---

### SCROFULOUS SORE EYES.

This affliction is met with most commonly in children, between the ages of two and eight or ten years. It is rare in this climate, and I do not recollect to have met with more than two well marked cases. It is said to attack only children of a scrofulous habit, and to be in many instances, the first evidence of the existence of this habit. The existence of such a habit of the constitution, is not always so well marked as to be easily identified ; but the disorder of which we are treating, bears a character which may be easily known.

In its first appearance, the inflammation of the eye now under consideration, produces a redness, or increased vascularity of the outer membrane of the eye ; but sometimes the redness concentrates in patches, forming several little pustules which finally ulcerate, and are very irritable. The eye acquires great intolerance of light, and the patient is seen shielding his eye with his hand, and distorting his features in every way to protect the eye. The general health is but little disturbed, no swelling of the lids of the eye takes place, and the patient, although suffering so much from the effect of light, does not voluntarily submit to confinement. When the disease is worse, the tears flow from the eyes over the face, inflame the skin, and produce thin crusts or scabs which sometimes become extensive. The disease is exceedingly slow in its progress, and difficult of cure.

This disorder is to be treated with reference to the general health of the patient. Where there is fever present, the treat-



ment is to be commenced by the use of mild cathartic medicines. Take of rhubarb a drachm, calcined magnesia, a drachm, rub together and divide into four powders ; of these powders, one may be given, every four hours, till they operate as a cathartic. After this, a generous food should be allowed, and the child protected from cold by warm clothing. The eye should, as much as possible, be protected from the light ; but from the obstinacy of the disease, and its chronic character, a rigid confinement during the cure, cannot be recommended. Tonic medicines are also advised, and of these the preparations of iron are the best. Eight or ten drops of the muriated tincture of iron, may be given twice a day. Sulphate of quinine has of late acquired great reputation, as a remedy in this disease ; two or three grains a day, given in doses of half a grain to a grain, will be sufficient.

The local treatment of the disease is a matter of more trouble, and equally important. The ulcers, if they have formed, are hard to heal. The remedy most relied on in their treatment, is a solution of lunar caustic ; four grains of this medicine may be dissolved in an ounce of water, and applied, either by dropping it into the eye, or touching the ulcer by means of a small mop or camel-hair pencil. This remedy should not be repeated more than once in two or three days ; and we are told that there is danger if continued too long, of its producing a permanent discoloration of the white of the eye, which has, in some instances, been turned to a dingy brownish color. This effect of caustic, I have never witnessed, and do not think it very easily brought on. The tenderness of the eyes in this disease, has led to the use of opium, as a local application. Take of laudanum a tea spoonful, unite with it four tea spoonsful of water, shake this together, and drop it into the eye, as in the common application of remedies of this kind. A preparation made by steeping opium in wine, is preferred to this, and is applied without the addition of any water. If the case proves obstinate, I have directed, with great benefit, the application of the laudanum without any dilution, by dropping a drop or two of it in the eye, from the phial. The irritation it causes is momentary, and I never have seen any permanent ill result from it.

## INFLAMMATION OF THE IRIS.

This disease is seated within the globe of the eye, affecting the iris, or that portion of it, which contracts around the pupil, and through which light is let into the eye, for the purposes of vision. This organ is exceedingly small in its dimensions; but small as it is, its diseases are exceedingly important, involving the uses of the eye. The diseases of this organ were long misunderstood and ill treated; but they are now considered as manageable as other diseases of the eye, and they furnish probably as many instances of sight saved by remedies, as any other disease of the eye.

Inflammation of the iris, when caused by accident, exposure, surgical operations, or other common cause of inflammation, is a very acute disease, running its course in a very short time, and not unfrequently destroying the sight. But when it arises from remote causes which are chronic, it also takes up a chronic character, and is to be treated accordingly. The most common of these remote causes is syphilis; but it is thought to arise, in some instances, from rheumatism, or other chronic complaints. Fatigue of the eye is another cause, and the one, I may say, from which I have chiefly witnessed its occurrence. The protracted exertion of the eye in fine needle-work, has produced it in many cases, and it is said to have occurred frequently to engravers, and others whose mechanical employments are particularly fatiguing to the eye.

The symptoms of this disease, although long overlooked, are very well understood. Some degree of redness in the white of the eye is obvious; and, on a close inspection, it will be found pale, and without the loaded vessels of an ordinary inflammation of the eye. The transparent part of the eye will look dull, but still be sufficiently transparent to admit of the examination of the parts within. The color of the eye, or of the iris, which is the seat of color in the eye, will be somewhat changed; it will be reddish in those whose eyes are of light blue. But the most unerring sign of its presence, is the alteration in the pupil itself, which becomes sometimes triangular, or otherwise misshapen, and, not unfrequently, immovable. In other instances, it contracts to a very small point, or closes entirely. The pain which attends this disease is sometimes slight, but in other cases severe and greatly aggravated at night; it is sometimes attended with but little fever, but this is

not always the case ; for, in some instances, the pulse becomes exceedingly strong and hard, and the feverish heat considerable ; the pain frequently extends to the head and to the parts contiguous to the eye.

#### TREATMENT.

This disease of an organ so small as to be scarcely an inch in diameter, affects tissues strictly resembling the larger closed cavities of the system, such as the cavity of the abdomen and of the thorax. The remedies employed in its cure, bear also a strict analogy ; but it is to be remarked, that the remedies are by no means to be regulated by the size of the organs affected. This inflammation of the eye is to be treated with the same promptness and effectual remedies, which would be required in pleurisy.

The first remedy to be used is bloodletting, which should be performed by taking from the arm a pint of blood, or more, according to circumstances. If the disease is protracted, it may become necessary to use local bleeding by means of cups on the temple. Bloodletting will commonly give prompt relief to the symptoms of this disease ; but this relief will be temporary unless other remedies are used.

A brisk cathartic should be given in the commencement of the disease ; and I know none better than cream of tartar and jalap. But this should be followed by the use of calomel, which is considered the most important remedy in the disorder. It is to be given for the purpose of exciting a speedy salivation, and where the patient has an ordinary share of strength, he may take ten grains a day divided into three or four doses. If it operates briskly as a cathartic, opium should be combined with it ; twenty drops of laudanum, for example, once or twice a day, as the case may seem to require. This course is to be pursued till salivation comes on ; and, in acute cases of the disorder, the salivation ought to be considerable, and copious spitting with much soreness of the mouth, brought on. But where the disease is chronic, and has existed for many weeks, this remedy should be used with corresponding deliberation. Take ten grains of calomel, and five grains of opium, in powder ; make into twelve pills ; of these pills, give three a day till a slight salivation is brought on. It is agreed that when salivation takes place, the disease, if curable, will instantly show signs of amendment, or its symptoms will lessen and gradually give way.

There is another remedy which has been used with great advantage, in this disease. This is belladonna, one of the strongest of the vegetable narcotic poisons. It had been long observed that this article, when applied to the eye, caused a temporary enlargement of the pupil; and, when the application is made of great strength, the iris so expands as not to be seen, leaving the whole of the internal structure of the eye exposed to the light. This effect of belladonna on the iris, has been made available in hindering the contraction of the pupil in this disease. It is to be applied, from time to time, according to the urgency of the symptoms. Twenty grains of the extract of belladonna, may be rubbed with a little water, so as to form a very thin pasty fluid; this may be rubbed on the lids and around the eye; it should be washed off in about an hour. A watery infusion of the extract is made by adding a greater quantity of water, and straining through linen. A drop of this in the eye, has a more powerful effect on the iris, and excites neither inflammation or other inconvenience. It is a matter of discretion in the practitioner, how often, and to what extent, this remedy should be used. The object of using it is, to hinder the contraction of the pupil which sometimes ends in closing it up; or the adherence of the iris to the parts below—in either case the eye is injured or destroyed. The remedy, it is obvious, ought not to be too often repeated; for when the iris is inflamed, the adhesion may form, as well in its expanded, as in its closed state; it ought, therefore, not to be allowed to remain too long closed, or too long expanded. And it is stated, that injury has happened, in some instances, from the adhesion of the iris when expanded, in such a manner, that its contractions were never recovered. This however is a less evil than the closing or shutting up of the pupil.

---

### AMAUROSIS.

This disease is blindness, without any defect in the organ of vision which can be made obvious by inspection, either before or after death. It arises sometimes from obvious causes; the exposure of the eye to the glaring light of the sun, has been known to produce it; a sudden flash of lightning occurring in the night, has done the same thing; but the most frequent of its causes, is, over fatigue of the eye, either in the examination of minute objects, or in intense and long protracted reading, or



other similar employments. In other instances, it arises without any obvious cause; sometimes suddenly, but more frequently very slowly.

When this disease is brought on by a sudden shock of the nervous system, or a sudden exposure of the eye to an intense light, the blindness is sudden, and sometimes complete. But in instances in which its approach is slow, the defect is, at first, very slight; it presents itself in the appearance of small, black, floating specks, as if of soot, in the atmosphere. They are seen, from time to time, and gradually increase in size, till at last they become so extensive as to entirely obscure the light. Commonly one eye is affected first; but, in a short time, both are involved in the same calamity. Very little pain is commonly felt, and the health of the patient remains unimpaired. There are a few instances in which the disorder is connected with an extensive state of paralysis, which affects the limbs, as well as the eyes.

#### TREATMENT.

Although this disease is not attended with pain, it is thought to depend, almost always, on an inflammatory disease, attacking the nerve, or the parts which immediately invest it in the bottom of the eye; it is, therefore, to be treated as an inflammation, by the use of bloodletting, cupping, cathartic medicines, and a very low regimen. But, in addition to these, the use of mercury has been found of more service than every other remedy which has been heretofore tried. If the case has happened suddenly, a salivation should be brought on as quickly as possible, by the use of from ten to fifteen grains of calomel a day, divided into three or four doses. It should be hindered from passing off by a cathartic operation, by the use of laudanum; twenty drops, as often repeated as it may be found necessary. When the disease is slow in its attack, mercury is none the less important; it is to be given to accomplish the same purpose, a salivation; but it is best to administer it in a more gradual manner, and to suspend it as soon as the salivation appears. Pills containing one grain of calomel each, may be given evening and morning. By this means the inflammatory cases of this disorder are frequently cured; indeed, if the remedies are used without delay, a cure may be reckoned on with some confidence.

It is acknowledged that the cases which happen from prostration and weakness, and in consequence of a particular weakness of the nervous power, are rare; when they occur, they

will be known by the general symptom of debility, and perhaps partial paralysis, which may be present. They are to be treated on a plan entirely opposite from that which has been directed above. The patient is to be allowed nutritious food, and remedies of a supporting and tonic kind; twenty drops of muriated tincture of iron, twice in a day will answer. These supporting remedies may be varied as the taste of the patient and the opinion of the practitioner may require. In cases of such long continuance as these are likely to be, a single remedy should not be continued for too great length of time.

---

### EAR ACHE—OTALGIA.

Pain in the ear is a very common complaint, and very frequently passes off without producing any injury to health, or to the organ of hearing. But cases do occasionally happen in which, *ear ache*, and its consequences, become tedious, troublesome, painful, and dangerous. Our knowledge of the subject is at best imperfect, but a few remarks on it, may be useful to some of our readers.

Through a winding passage from the back part of the throat, there is an opening into the chamber of the ear, or true organ of hearing. The external air through this opening, comes in contact with the nerves of hearing, in a manner no where else admitted in the structure of the body—all other nerves of sense are protected by covering more or less thick. This exposure of the nerves may account for the frequency of pain in the ears, after exposure to cold, and damp winds. This is the most common cause of pain in the ears. But this organ is subject to pain from causes peculiar to itself. Sudden impulses made on the ear by the firing of cannon, or other loud noises, often produce violent pain in the ears. These, and other causes, give rise to pain and inflammation, but the progress of the disease, will be governed by the circumstances attending the case.

Ear ache is much more common in children than in grown persons. The descriptions we receive of it are therefore commonly imperfect. It is often a temporary disease, attacking the child at night, after it has played in the cold wind, and terminating before morning. The pain is, in these cases, severe, often agonizing, but ceases rather suddenly, leaving the child to sleep, without much disturbance, till morning. Some de-

gree of deafness is apt to follow these attacks; but nothing seems to be demanded as a remedy, and the deafness gradually subsides. These cases, painful as they are, do not seem to be attended with any inflammation.

The pain which attends the inflammation of the ear, does not differ widely from the above described, ear ache. It does not however, subside in a few hours; but fever makes its appearance, and the symptoms become aggravated. They sometimes become very violent, producing delirium, and a fever of highly inflammatory symptoms. These symptoms sometimes continue till suppuration takes place in the ear, with a rupture of the tympanum and a discharge of matter through the external opening.

Great injury to the internal organ of hearing frequently follows this formation of matter. The bones of the ear, are sometimes destroyed and escape, and caries of the skull sometimes, though rarely, takes place. The danger to the ear, and to life itself, is sometimes very great, but we are often surprised to find, that with a great amount of internal injury, frequent and long protracted suppurations, and great pain and suffering, our patients still retain the sense of hearing. Total deafness is seldom produced by these cases of inflammation and suppuration of the ears.

#### TREATMENT.

Sudden attacks of ear ache are to be treated with anodynes. Take a tea spoon nearly full of sweet oil, drop into it twenty drops of laudanum, and mix together with the finger. Pour this into the ear, and fill with wool, or cotton. Or the same purpose will be accomplished by dipping the lock of wool in the oil, and putting it in the ear. Lay a warm brick on the bed, and lay the child with its ear near it. The pain will probably cease in an hour or less. Where the pain is violent, give a dose of laudanum before putting any thing in the ear. If the sweet oil is not at hand, lard, a little warmed, will do in its place.

Where the pain arises from inflammation, its attack is usually less sudden; but it continues longer, and gives rise to fever, and sometimes delirium. These cases require a different treatment. A brisk cathartic, of calomel and jalap should be given, and a blister applied behind the ear. The blister should be cut, to fit the part back of the ear, which is without hair. It need not be larger than half a dollar. If the pain is extreme, and the heat and fever are considerable, leeches applied near

the ear, or bloodletting may be advisable; but unless these remedies are used at an early stage of the complaint they might as well be omitted.

In spite of the remedies we have mentioned, inflammation of the ear frequently produces suppuration; and, after a week or more of agony, the matter is seen to flow from the ear in considerable quantity. This state of things does not call for any active treatment. Cleanliness is the first consideration. When the discharge subsides, so as to allow of it, a lock of cotton or wool should be put in the ear. This is necessary, to hinder the passing of insects into the ear, and may be useful to promote cleanliness. After a few days, if the discharge continues, take a weak solution of castile, or shaving soap, and throw it into the ear with a syringe. This operation is to be carefully done with a small syringe, and very little force used, as the operation of the stream on the tender organs of the ear, may produce pain. In this way, the ear may be washed out daily, and cleanliness observed. These cases become tedious, and annoying, but there is little more to be done, but to wait for the operations of nature, and to observe neatness and cleanliness.

If the patient, affected with ear ache or suppuration, and running from the ear, has, at the same time, any other disease, or if, from the long continuance of the discharge the health gives way, a system of general remedies is to be adopted, suitable to these disorders. The food should be rich and nourishing, and wine or toddy given in moderation, once or twice a day. If the exhaustion and weakness are considerable, preparations of iron, or vegetable bitters, become necessary.

---

## INFLAMMATION OF THE MOUTH—STOMATITIS.

The original diseases which attack the mouth, are few; but these cannot all be clearly delineated without division.

### SIMPLE INFLAMMATION OF THE MOUTH.

This is, for the most part, a disease of early infancy, milder than thrush, but, in other respects, much resembling it. But it is not confined to the age of infancy or childhood; it may occur at any period of life.



## CAUSES.

The violent action of the muscles of the mouth, in drawing the breast, is often the only obvious cause for inflammation on the tongue and lining membrane of the infant's mouth. But teething and its attendant disorders, are a more frequent cause, and I give to it the chief title it has to a separate consideration. It is obvious also, that as this is a simple inflammation ; it may arise from violence, or the application of fire, or caustics of any kind.

## DESCRIPTION.

Heat, redness, swelling, pain, and a copious flow of saliva, are the common symptoms of this disease. When it occurs spontaneously in early infancy, its duration is short, commonly not more than a week. It produces some difficulty in swallowing, and apparently pain in drawing the breast, but not often cracks in the lips, and a spreading redness around the mouth. The ulceration and gangrene, which are said to attend it in rare instances, I think belong more to the disorders we are yet to speak of, in this chapter.

## TREATMENT.

A mild cathartic of rhubarb and magnesia, given every second or third day, has, in my practice, generally proved sufficient to relieve this disorder. But it sometimes holds on for a week under this treatment, and I resort to calomel as a more powerful remedy. The local disorders of the mouth require particular attention, at the same time. The swelling which sometimes occurs about the root of the tongue, or in the glands near the angles of the jaws, requires remedies. Leeches are necessary, if the inflammation is so high as to render suppuration probable. But I have met with no case in which I was not satisfied with the application to the throat, of a simple poultice of corn meal or light bread, boiled in milk. It should be applied cool, and renewed twice a day. This cause I think greatly preferable to the stimulating liniments I have known advised. These remedies are sufficient, in ordinary cases ; but when, in older persons, unsound teeth, or the effect of any stimulant improperly used, is ascertained to operate as a cause of the complaint, they should of course be removed.

## WHITE THRUSH—CURDY STOMATITIS.

This is a disease of early infancy, occurring in more than half the children born in this country, and without any obvi-

ous cause. I have witnessed its progress through many families, and have seen children of the same parents, have or escape it, without any proportion to number; a single one of a whole family being, in some cases, the only sufferer; and, in others, perhaps a single one escape. I have not been able to satisfy myself of the truth of the common belief, that this disorder is contagious. In this country, it is common for healthy mothers to nurse the babes of others, who have a deficient supply of milk for their support. This is never done, if the suffering babe is known to have the thrush. But, in many cases, the thrush breaks out in both children; and I have often known the healthy mother charge to her beneficee, the breaking out of this disease in the mouth of her own child. There can be no doubt, that the nipple of the mother is frequently inflamed by suckling a child having this disease. This inflammation spreads in a ring around the nipple, and is, for a time, very tender, but never produces ulceration or cracks.

#### DESCRIPTION.

A deep red, and inflamed appearance of the tongue, and lining membrane of the mouth, with but little tenderness, and no swelling, announce the approach of thrush. Soon, small white specks appear, and gradually increase in size, running together in patches, especially towards the root of the tongue. This eruption has been called curdy, and nothing can be more descriptive, for its resemblance to curdled milk, is altogether striking. It adheres slightly to the tongue, or lining membrane of the mouth; and, if detached, discloses no ulcer, nor induces any discharge. I have seen a young mother, mistaking this disease for curdled milk, busily engaged in rubbing it off with the corner of a rough towel. The child screamed from pain, but no blood flowed—no discharge or swelling succeeded, but apparently the inflammation and tenderness were, for a day or two, aggravated in a slight degree. The eruption is apt to return, if, by any means, it is rubbed off, and sometimes continues for several weeks. The curdy matter, however, becomes less and less, and the mouth dries as the case continues. The bowels become disordered—fever ensues, and a red margin appears around the anus, but without any resemblance to the eruption in the mouth. The child is now in a dangerous situation, and requires the best treatment. Few cases arrive at such a stage—the great majority terminating favorably in eight or ten days. Scarcely any thing else from disease, bears

much resemblance to the production, removal, and reproduction of curdy thrush. The microscopic observations, which have, of late, been thought to prove this curdy matter to be a vegetable growth, have more plausibility than would, at first, seem probable.

#### TREATMENT.

In slight cases, where the bowels are not disordered, and the disease not much extended towards the throat, it is unnecessary to give active remedies. Detergent applications of moderate activity, applied to the mouth with a rag, or, what is much better, a camel-hair pencil, commonly answer every purpose. Borax, the most common of all, is perhaps the best. It may be reduced to a fine powder, and rubbed up with sugar, one part of borax and four of sugar, the exact proportion being of little consequence. Honey may be used in place of the sugar. It may thus be applied, either dry or in the form of syrup. Vegetable astringents may be substituted, if the disease does not readily give way. The best of these is galls in infusion, or its near equivalent, oak bark, prepared in the same way—pour half a pint of boiling water on two drachms of powdered galls, or on an ounce of powdered oak bark.—Apply this to the affected part, daily, or, at most, twice a day.

The diarrhœa which frequently attends the worst cases of thrush, requires special attention. It is commonly attended with severe pain in the bowels, if we may form this opinion from the frequent screaming and writhing of the patient. I have prescribed paregoric, in these cases, with good effect—give five drops, to a child a month old, once or twice a day, according to the evidences of pain. Two grains of calomel, divided into three portions, may be given in twenty-four hours. If it seems not to operate, a tea spoonful of castor oil may be given the next day. If this seems to produce much pain in the bowels, avoid repeating it, and substitute rhubarb and magnesia. If these remedies do not stop the diarrhœa, and the patient loses flesh and becomes very weak, commence a tonic and supporting course of treatment. Mix a tea spoonful of brandy, or other good spirit, in sugar and water, and give it in the course of six hours. Use also lime water, prepared chalk, or other absorbents in small doses. Vegetable astringents may be also used with benefit. Tincture of gentian may be given in doses of ten drops, in water, three times a day. Under this treatment, the thrush will seldom prove fatal.

## YELLOW THRUSH—APHTHÆ.

This is a very common disease with children ; but so frequently happens in the course of dyspepsia, diarrhœa, cholera infantum, and other disorders, that I have serious doubt whether it is ever an original disease. Nor is it confined to the age of childhood ; it occurs at all ages, and almost always as an obvious attendant, or consequence of other diseases.

## CAUSES.

Teething children, are by far more subject to this affection, than other persons ; and there can be but little doubt, that the disorders of this state, produce aphthæ. I have also seen it so frequently in children of seven or eight years of age, that I have thought the obtainment of the second set of teeth, had its influence in producing it. But the disease is not confined to children, and must, therefore, arise from other causes besides teething. The most frequent of these is dyspepsia. Few dyspeptic persons long escape aphthous eruptions. They occur from time to time, and often disappear without the use of any remedy. In other cases, they are more permanent, and become confluent.

Diarrhœa, especially when brought on by cholera infantum, is very often attended with this form of thrush ; but, in these cases, dyspepsia is also present, and may be the cause of the aphthæ. I feel the more disposed to attribute this disease to a prior, or coexisting disease in the stomach, from the observation of Doctor Beaumont, who found his patient, St. Martin, when disordered by excess in eating, to have aphthæ on the mouth and tongue, and, at the same time, a similar eruption in the stomach. Dysentery, typhus fever, and consumption, are said to be frequently attended with aphthæ ; but it has not happened under my notice.

## SYMPTOMS.

An inflamed appearance of the mouth, with points of extreme redness and a little elevation, may be noticed, as the onset of this disease. Soon, a clear and very small vesicle or blister, appears on these red spots. Very soon, perhaps the same day, the vesicles burst, and a greyish yellow ulcer, of intense tenderness remains. Before the bursting of the blisters, there is very little pain or uneasiness manifested by the patient ; but, immediately afterwards, the smarting and pain



become considerable. The slightest touch, becomes intolerable, and, if it be in a child, it takes the breast with great reluctance ; I have seen many refuse it altogether, and never return to it any more. Taking food is also painful, especially if it is hard or dry. A grain of rice, or a particle of small hominy, lodging on one of these ulcers, is a cause of much pain, and the accidental occurrence of these spots, on the tongue or lips, where they are in contact with the teeth, produces constant irritation. So great is the irritation and pain, attending this disease, that the child who labors under it, is exceedingly troublesome, scarcely allowing rest to its nurse by day or night. I have often experienced attacks of aphthæ, brought on by a very slight dyspepsia. I can testify that the ulcers are exceedingly tender, and after being excited or touched, give great pain. It is amusing to hear a French writer say, that in the worst form of this disease, a child manifested more pain from its crying than its tears. Screaming is the language of pain in young children—tears flow at a later age.

In some cases the ulcers are very numerous, but very small, extending over the tongue and lining membrane of the mouth ; in others, they are very few, and proportionably larger. The eruption commonly appears all at once, and, if the number of points are increased, it is after a considerable time ; and, as it were, by a new eruption. The ulcers often increase in size, and several run together, forming larger ulcers ; but I never saw this so cover the tongue, as to produce a resemblance, to white thrush, nor have I seen any evidence that this disease extends through the bowels, and appears at the anus. The excoriation and redness which I have seen on that part, have never been attended with an eruption, in the slightest degree resembling thrush ; and I have as often seen this excoriation, from acrid discharges, where there was no aphthæ, as where there was.

#### TREATMENT.

We have stated that aphthæ, or yellow thrush, is seldom, if ever, an original disease. It will be useless, in this place, to repeat the account of the remedies we have recommended for dyspepsia, diarrhœa or colera infantum, in which this disease almost always occurs. If the patient labors under either of these diseases, the reader will please refer to them for his remedies. Should it occur during the progress of any other disease, he will, in like manner, refer to that ; but should it

arise where there was no other evidence of ill health, it is here we should point out its proper remedies.

Calomel, is so far superior to all other remedies, for this form of thrush, and for the diseased state of the stomach or intestines which gives rise to it, that I deem it scarcely necessary to mention any other internal remedy. To an infant one year old, it may be given in broken doses, combined with chalk as follows: Take of calomel four grains, prepared chalk thirty grains, rub well together, divide into four powders, and give one evening and morning. If they produce no bilious discharges, a dose of castor oil may be given, six hours after the last powder. This will rarely be necessary. These remedies may be repeated as often as the disease recurs, or, once a week, if it is not removed sooner. A salivation is little to be feared, and will never happen if the remedy passes off with bilious stools, or the castor oil is made to operate moderately well. It would be incredible to say, what proportion of patients with yellow thrush, I have discharged cured, with a single prescription of four powders of calomel combined with chalk. If the patient is more than a year old, the doses he takes should be proportionably increased.

But it is far from being always necessary to give internal remedies for aphthæ. I should not advise any remedy of a general nature, unless there was present an obvious general disease. I have a hundred times, seen aphthous ulcerations connected with indigestion, requiring no remedy but a proper regimen. But there is no case so slight, as not to justify, or require the use of local remedies. Even cases which would within a week get well of themselves, are too painful to be endured so long, when there is a remedy at hand.

Lunar caustic, as a local remedy, is entitled to the same pre-eminence, as calomel as a general one. At the moment of its application, it may cause pain; but this pain is transient, and the relief perfectly astonishing. I have had ulcers of this kind effectually touched with caustic; and, in half an hour, the tenderness and pain disappeared entirely, to return no more. The same fact has been often verified by others; and even in young children, I have seen the same good effect from it. The application is made by dissolving ten grains of lunar caustic in half an ounce of water, or distilled water if to be had—and applying it to the ulcers with a camel-hair pencil, or bit of fine rag or sponge, tied to a straw. If the aphthæ are very numerous, and the application difficult, it may be well to make it to a part only of the ulcers at

one time. But this precaution is seldom necessary—the child will cease, after a few minutes, to complain of pain; and it may be dismissed after applying a fine rag to the surface, cauterised for a moment, to absorb that portion of the caustic which might otherwise discolor the teeth. Another, and perhaps a better mode of applying lunar caustic, is in substance. Fix a piece of caustic in a quill as a slate pencil might be fixed, and be sure it is not so loose as to drop out in using it, and apply this freely to each ulcer. Touch the end to a drop of water before using it. In whichever of these modes this application is made, it is entirely safe; and, so far as I have seen, far more effectual than any other remedy. The application may be made, once in two days, and is seldom required more than twice.

I should feel perfectly satisfied to dismiss this subject here; but there are remedies, less effectual, it is true, but more congenial with the taste or feelings of some persons, and which will, in most cases, effect a cure. A mild cathartic of rhubarb and magnesia may be substituted for calomel. Take of rhubarb ten grains, calcined magnesia, twenty grains, mix and divide into four powders. Give one every three hours, in syrup or water, till they operate. A dose of castor oil may answer as good a purpose.

Milder local applications may also be tried in the first instance. Borax, in fine powder, mixed in syrup or honey, is one of the best. Alum, used in the same way, is more powerful, but far more painful. This last circumstance renders it proper to dissolve the alum in water, twenty grains to the ounce, and apply it in the manner above directed for the caustic. A solution of surgar of lead, of the same strength, and used in the same way, will be far less painful, and perhaps equally effectual. Vegetable astringents, in endless variety are always at hand, and may be used without fear. A strong infusion of galls, or of persimmon, or oak bark, may be tried.

Thrush, as we have described it in this article, is a mild disease, never, as I think, becoming dangerous, except from its complication with disorders of the stomach and bowels. It is, therefore, to be treated in reference to these disorders. If, therefore, this eruption of the mouth takes place, the general health of the patient is the first subject of investigation. And if the disease which may have produced the aphthæ, is obvious, that disease is the most important object of our attention.

## ULCERATION OF THE MOUTH.

I have never seen the false membrane which is said, in some cases, to form over ulcerations of the mouth. But an ulceration, commencing in the gums, and sometimes extending to the inside of the cheeks, is not a very uncommon disorder. In some cases, it becomes formidable, producing sloughing of the gums, and exfoliation of the alveolar process, or part of the jaw bone in which the roots of the teeth are fixed. This is the canker of some writers. I have seen portions of the bone containing the first, and the rudiments of the second teeth, exfoliate in this manner, but never knew the jaw bones to sustain any further injury from this disease. In milder cases, the gums are found to leave the teeth, partly by erosion, and partly by a swelling which seems to turn out the gum, and leave the teeth with little support. They are loose, and disposed to fall out, the breath is offensive in the extreme, and the health destroyed. There is less fever than in other diseases of the mouth, and in the few cases I have seen, the skin was cold, the pulse small, and the complexion pallid or rather marbled, as in scurvy. I have witnessed such cases only in the humblest walks of life, and have suspected improper food as the chief cause.

## TREATMENT.

The general remedies are such, as nourish the body and invigorate the system. For a day or two, on first giving remedies, I think there is nothing equal to sulphate of quinine. To a child six years old, give five grains, divided into six doses, in the course of the day. Elixir of vitriol—diluted sulphuric acid—may be given in doses of five or six drops, three times a day. It may be given at the same time with the quinine, or afterwards. Spirit in small quantities, or vegetable tonics, or bitters, may be given, according to the debility of the patient.

The local applications should be stimulant and detergent, rather than caustic. Tincture of myrrh, diluted with four times its measure of water, is perhaps the best. Tincture of bark may be used in the same quantity. These remedies may be applied with a camel-hair pencil, or some similar implement. If the ulceration is extensive, lint should be laid on the ulcers before applying the medicine.

*Food.* But the most important means at our service, in these cases, is rich and proper food. If the patient has been poorly fed, let a gradual provision of better food be made. If there



is reason to suspect scurvy, let vegetable acids, especially lime juice, be liberally given. Care should be taken to avoid giving food that does not agree with the stomach. Perfect digestion is to be obtained, if possible; and if food too rich and feverish is first tried, it can be abandoned for that which is lighter.

#### GANGRENOUS SORE MOUTH.

This is a more violent and probably altogether different disease from the foregoing. It is true, the ulceration we have been describing, sometimes becomes gangrenous, and produces sloughing, exfoliation and death; but the disease we are about to describe, makes its attack more suddenly, and is more rapid in its progress.

The cheek is attacked with pain, and, on examination, a hard tumor is found. This may occur during the progress of fever, dysentery, or ulceration of the mouth; but I believe it has as often occurred when there was no other disease existing. The pain is violent, and the swelling rapidly increases. In a day or less, the cheek assumes a crimson redness; and about the centre of this redness a bluish spot is seen. By this time a gangrenous erosion has happened on the inside of the cheek. This is a true mortification, and rapidly spreads. The patient becomes feverish, exceedingly restless and delirious, and death probably closes the scene in four or five days. Some cases reserve a fate a little better for the sufferer—it is not death. The mortification stops, and a sloughing of the cheek more or less extensive, takes place. The patient recovers, but with great loss of substance, and great deformity. I have seen a case in which the disease commenced near the corner of the mouth, and, in eight or nine days, had entirely encircled the mouth. The lips were wholly destroyed. The patient recovered; but so strong was the contraction from cicatrization, that his jaws were so clenched that a knife-blade could not be forced between the teeth. He was reduced to the necessity of sucking through his teeth, the food on which he barely subsisted. In this state he returned to me, after an absence of three months from the time he had been cured of the mortification. There was no choice between an operation and starvation. I had experienced the proneness of cicatrices to reunite, and render operations useless, and proceeded accordingly. I cut freely from each corner to the masseter muscle on each side, giving him a mouth by four inches wider than that he was born

with. He is now so far as I know in good health. This case occurred in a healthy man in the meridian of life.

#### TREATMENT.

I have treated two cases of this disease—one occurred during an attack of dysentery, and the other to a man in ordinary health—the one with dysentery died—the other recovered as above stated. Both were treated on the same principles.

An account of the successful case will sufficiently show my mode of treatment. The mortification had fully disclosed itself when I first saw it—my patient was in great pain, and I gave him three grains of opium, in a pill. At the same time I directed sulphate of quinine, at the rate of twenty grains in twenty-four hours. I directed warm applications to the mouth, but it was difficult to use them efficiently. The opium seemed to have but little effect, and was gradually increased, so that, in the course of three or four days he was taking, about ten grains of opium, each twenty-four hours. Sloughing commenced in about six days; during which time he had taken the quinine, at the rate of twenty grains daily, and the opium in gradually increased doses, as above stated. Tincture of myrrh to the sloughing surface, was now added to his remedies; he seemed better; but, at one point, the mortification had not commenced sloughing. Contrary to advice, he was now taken to his residence at a distance of twenty miles; and in eight days was brought back, extremely ill, with the mortification extended quite around his mouth. His remedies were now renewed, and, in addition to them, he took freely of distilled spirit. The mortification ceased to spread, and a sloughing, which I thought very imperfect, began. The line between the mortified and living flesh seemed illy defined. I applied a strong solution of lunar caustic daily. The case now changed rapidly for the better; and, in about three weeks from his second treatment, he was dismissed. The damage sustained by this poor man was very great, and may signify, that the treatment might be much improved. But it is to be remembered, that he had a very imperfect trial of his remedies, from not being early enough under their operation; and again, from their being improperly suspended, before the case had terminated. I should not despair of better success with the same remedies, if applied in due time, as above directed.

---

## CLERGYMAN'S SORE THROAT—CHRONIC LARYNGITIS.

The variety of disorders which attack the breathing apparatus, is so great, that there is constant danger of mistaking one for another. Almost all these disorders rest on inflammation; but the manner in which, in particular instances, it confines itself within a very narrow limit, is remarkable. The larynx, as we have seen, is subject to various kinds of acute inflammation; we are now to consider it, when inflamed, or ulcerated, in a chronic form. From the frequency with which it attacks persons who follow public speaking, it has acquired the common name of clergyman's sore throat; and there are many instances, in which it drives from the pulpit, those who had devoted their lives to its dangerous labors.

The causes of this disease are, many times, not to be distinguished from those producing common colds. But as the inflammation attending it, is near the seat of the voice, it is obvious that the powerful effort of the orator is calculated to aggravate its symptoms.

The consequences of this inflammation, are more grave than might at first be expected. The inflammation being chronic, results in the production of small ulcers, or pustules, which are found sometimes in considerable numbers, in the back part of the throat, and probably farther down than they can be seen. Sometimes this ulceration becomes considerable, injuring the epiglottis, and destroying the voice. The health becomes very much deranged, and, in many instances, consumption follows.

The symptoms by which this disease is known, are, in the first place, a remarkable degree of hoarseness, with some uneasiness about the throat, and a general appearance of great debility and ill health. The pain will commonly be referred by the patient to a particular spot, with a particular sense of pricking or tickling. This tickling produces more or less cough, but at first without any expectoration. As the disease progresses, the throat becomes sore, the swallowing painful—in some cases strangling or suffocation attends the attempt to swallow fluids. On examination, by placing the patient in a fair light, and pressing down the tongue with the handle of a spoon, a part of the diseased organs may be readily exposed. Sometimes small pustules with white tops, may be seen in the

back part of the throat; in other cases, deep redness with points apparently raw, and secreting matter, spread over the entire region that can be seen beyond the palate; in other and worse cases, deep ulceration is seen, on one or both sides.

No disease is more formidable than this, when it proceeds to a certain extent; the voice is almost, or entirely lost; hectic fever, great wasting of the flesh, and copious expectoration, signify but too clearly the fatal result which may be apprehended.

Great obscurity hangs around the causes of this disease. In some instances, it is exceedingly rapid in its progress, terminating fatally in a few months; while, in other cases, it may last for many years. Sometimes it seems to have been induced by the protracted use of mercury; sometimes it has appeared to arise from typhus fever. Indeed the causes assigned for it, are so various and inconsistent, that we are often led to suppose, that it occurs spontaneously, and without any dependence on these causes.

#### TREATMENT.

In its first stage, this disease may not differ very widely from a common cold; the inflammation occupies pretty much the same seat, and will require but the light treatment recommended in that disease. But when the disease is found to continue without abatement, when the hoarseness proves obstinate, and, on examination, the diseased appearances described are seen in the throat, we are to consider ourselves as engaged in treating a serious disorder. Every exciting cause should be forborne; loud speaking should especially be forbidden; and, where the disease in the throat is obviously bad, it is not too much to require positive silence from the patient; he should by all means be told, that whispering is abundantly more safe to him than loud speaking. Other causes of excitement should be equally avoided; fatigue or exposure to cold, and all the causes of inflammation in general, should be carefully shunned.

But it is not from abstinence alone that we are to expect a cure in chronic inflammation of the larynx; remedies of the most active character are necessary. Bloodletting should not be neglected, unless the debility of the patient, and feebleness of the pulse, should seem to forbid it. Leeches applied to the throat, or cupping on the back of the neck, are remedies of the same character, and entitled to their place in the treatment.



Tartar emetic is a valuable remedy in this disease ; it should be given in such doses, as the stomach will bear, without exciting vomiting—from a quarter of a grain to half a grain, two or three times a day. It is best taken at times as distant from taking food, as can be conveniently chosen. This remedy is especially called for, at an early stage in the disease, and is to be used with a perseverance corresponding with the severity of its symptoms, and the strength of the patient.

Counter irritants such as blisters, sinapisms, and issues, are to be called into requisition, under various circumstances, in protracted cases. From blisters applied to the throat or to the back of the neck, I have seen the greatest advantage derived. If the discharge of blistering is not desired, a beneficial influence will be exerted by the application of sinapisms in their stead. Issues are suited to protracted cases. They should be made on the back of the neck, by means of caustic, or the introduction of a seton.

Opinions are divided on the use of mercury ; my own opinion is decidedly in its favor. But it should not be used in such quantity, as to excite much salivation. The remedy which I have used with more benefit than any other, is the following : Take of calomel ten grains, tartar emetic six grains, opium twelve grains, mix together, and divide into twenty-four pills. Of these pills, two may be taken daily, one at bed time, and the other at nine o'clock in the morning. They may be continued for many days, or indeed for many weeks ; it being only necessary to observe, that the patient is not thrown into any considerable degree of salivation. The composition of these pills may be changed to suit the case under treatment. The quantity of tartar emetic may be increased, if it produces no obvious effect on the stomach ; the quantity of opium may be doubled, with great advantage, where the patient is much exhausted, and great irritation is present ; and the same remark may be made with regard to the calomel, which may be modified in quantity or wholly omitted, according to the discretion of the practitioner. This combination of remedies is not to be abandoned lightly, for it will be seldom substituted by a better.

It should be borne in mind, that this disease sometimes arises from a venereal, or syphilitic taint. This cause is to be suspected in many instances, in which the patient will have no suspicion that he is affected with any such disease. I can offer no particular rules for the limitation or adoption of this belief, in any particular case ; but, it may be observed in gen-

eral, that there is no disease which seems to continue so long in the constitution, or to be transmitted from one person to another under circumstances more obscure than syphilis. The suspicion in these cases can but direct to a more diligent attention to the use of mercury. This remedy is, in my opinion, proper in almost all cases, and it would be exceedingly unfortunate if a person should be suffered to die for not having used it, where it is the only remedy to be relied on. Nor am I so ready to credit the statements which have been made of the injurious effects of mercury, in this disease. I am decidedly in favor of making trial of its influence in almost every case, in which the patient's strength is not already too much exhausted.

In some instances, this disease is attended with a copious discharge of pus from the lungs. It would be taken in these cases for tubercular consumption, if the history of its rise and progress were not attended to. The advantage of this scrutiny, is the reasonable ground of hope it gives of the recovery of the patient, from symptoms so alarming. In these cases, balsams have been found particularly beneficial. Twenty drops of balsam copaiva may be taken on sugar, three or four times a day; if it produces nausea, or operates upon the bowels, the dose may be lessened. The remedies advised in this disease, should be used in such moderation, as will admit of their being continued for a considerable length of time. This is especially the case with blistering, issues, and caustics. The discharges brought on by their application to the skin, should be kept up for a considerable length of time. Nor is the local treatment of the disorder in the throat to be less regarded, or adhered to with less constancy. The pustules, or abraded and raw surface seen in the throat, are to be treated with the application of caustics, from time to time. Take of lunar caustic, forty grains, dissolve it in an ounce of water. Apply this by means of a camel's hair pencil or small mop, to the ulceration in the back of the throat. Where it is obvious that the ulceration extends down beyond the points to which our investigation can extend, means may be used to extend the caustic application lower. A piece of whalebone, or tough wood, eight or nine inches in length, may be used for this purpose. A small piece of sponge, the size of the end of the little finger, or a rag of similar dimensions, may be securely fastened to the end of this instrument, dipped into the caustic solution, forced a few inches down the throat, and withdrawn. This mode of applying caustic is perfectly safe, and requires

only the precaution of not having the sponge when used, filled with so much of the fluid as to cause a great deal to flow out of it.

The slow progress of this disease gives time for the advantages of change of climate, and all the benefits which a change of regimen will produce. Great benefit has, in many instances, been derived from a change, especially from a colder to a warmer climate; and this remedy is here particularly suggested as affording more hope in this, than in most other forms of the disorders of the lungs, and connected organs.

We have said but little of the regimen which should be used by patients in this disease. During its earlier stages, the food taken should be of the least stimulating, and the blandest kinds; but this stage of the disease soon passes by, and it becomes desirable to afford our patients a regimen, sustaining and nutritious, if not rich. At the same time, it should not be forgotten that the stomach is apt, in these cases, to be weakened in its digestive powers. Alkalies or other absorbents should be habitually used by those afflicted with this disease. Twenty or thirty grains of prepared chalk may be taken, after breakfast, and after dinner. If the bowels are costive, an equal quantity of calcined magnesia, may be taken in its place. These, and other similar remedies, may be used at any time, in the course of the disease.

---

## DISEASES OF THE LUNGS.

### AUSCULTATION.

It would be considered unpardonable in this day of investigating diseases through the medium of hearing, to give an account of the diseases of the lungs, without saying something of this mode of investigating their characters. But it is as well to acknowledge the truth—I know but little of auscultation; and confess that my faith in the utility of this mode of investigation, is not very strong. Nor do I feel authorized to believe, that any very great advantage in the mode of treating diseases, has resulted from what has been termed the great discovery of Laenec. I have, as in duty bound, read two or three long chapters filled with high praises of auscultation; and while admiring the certainty with which the particular seats of disease by this new mode of investigation, were said to be pointed

out, my hopes were suddenly cut down by reading at the bottom of one of these chapters; that "physical diagnoses had not certainly revealed or suggested, any new remedy or new plan of treatment generally." To this humiliating conclusion have those who have studied and practiced auscultation, arrived at last.

I do not pretend to teach the mode of investigating disease by auscultation. That it may, in a few instances, be useful, I shall not deny; but that its imperfections at best, are very great, and that without constant practice and the diligent comparison of one case with another, it is calculated to mislead, I fully believe. I have no doubt that in cases of great destruction, or of cavities formed in the lungs, and in certain diseases of the heart, some degree of knowledge may be obtained in this way. The patient may have through this means his last ray of hope destroyed, but what is gained in the mode of treating his disorder?

It would be wrong for a young physician to neglect the investigation of disease by this means. Auscultation is a field of promise; its results have been unexpected and remarkable, and the usefulness that may yet be found to arise from it, cannot be foreseen. In a limited way, investigations have been made in this manner from the earliest times; a slight blow with the hand will, many times, yield a sound very significant of the nature of the matters contained within the part. Over the lungs such a means of investigation will often detect the presence of fluid, or its absence. The sound yielded will be significant of air, or a denser fluid. Heavy fluids contained in the natural cavities, are sometimes heard to descend to a lower point, when the patient has changed his position. This I have witnessed in dropsy of the lungs, in which, if the patient turns from one side to the other, the water may be plainly heard trickling down to the part which has now become the lowest. The subject may be considered new. It is undergoing daily, an intense investigation, and I can but hope its results will prove as beneficial, as its most zealous votaries can desire.

#### INFLAMMATION OF THE LARYNX.

The larynx is the upper orifice of the wind-pipe, through which, in the process of breathing, air enters the lungs. It is frequently the seat of disease, and is the principal seat of what is termed a common cold. It occurs under various circumstances, and sometimes seems to have but little tendency to descend to the lungs.



In its simplest form, inflammation of the larynx is not attended with much cough; there is, however a considerable hoarseness attended with some cough, although not to a distressing degree. Its attack is sometimes preceded with heaviness, languor, and a low degree of fever. Pain in the larynx, especially in attempting to swallow any thing, is also a troublesome symptom. In some cases the disorder seems to be brought on by a low degree of inflammation, occurring in the roof, or the back part of the mouth, and extending to the larynx. The disease, in this form, is seldom formidable.

The remedies used in this disease, are those common for inflammation generally; but there are some which are peculiar to this disease, in consequence of its particular locality. Bloodletting and a cathartic of calomel should be used, if the pain is considerable, and especially if it is attended with much swelling. Leeching of the part may also be mentioned as a proper remedy. Mucilaginous drinks, such as flax seed tea or a weak solution of gum Arabic, taken warm, have been also recommended. These remedies are, in my view, of but little consequence; and where the disease is slight, and attended with but little pain, I usually satisfy myself with giving a dose of calomel, and advising abstinence and rest.

---

## COLD OR CATARRH.

Every one knows a common cold; and there are few who would not tell you, that it is a disease attacking principally the lining membranes of the nostrils, producing frequent sneezing, watery eyes, cold extremities, with more or less chilliness. To these symptoms we may add one less frequently noticed, the copious discharge of limpid urine. Some degree of fever and cough, with pains in the limbs, heaviness, and oppression, complete the symptoms by which a common cold will be known from almost every other disease. It is true, these symptoms occur in the onset of several diseases; measles is, on the first day, scarcely distinguishable from a common cold; and I have seen the same statement apply in small-pox, and in bilious fever. Still, the common cold will be known from other disorders in the course of a short time; for beyond a cough and low degree of fever, its symptoms seldom progress.

Exposure to cold being frequently followed by the symptoms we have described, has given name to the disease under con-

sideration. But there are other causes, or at least another cause, much more frequently concerned in the production of this disease, than might be at first supposed. Without regard to changes in the atmosphere, common colds are often epidemic, attacking many persons at the same time, in the same manner. Influenza which resembles it so closely as to be scarcely discriminated, prevails over vast tracts of country, regardless alike of summer and winter, heat and cold, wet and dry. In the same manner I have observed common colds to prevail; and I have thought that they were apt to be worse, when occurring in warm weather.

#### REMEDIES.

So slight is this disease, in a majority of cases, that patients will scarcely demand a remedy. Individuals differ very much in the manner in which they are affected; some being scarcely affected with any cough, while others are affected with a violent cough, almost from the first. When the cough is very slight, and the fever considerable, a cathartic of ten grains of calomel should be given. If it does not operate in six hours, give half an ounce of Epsom salts, or a seidlitz powder. The patient should abstain from food, or take that which is exceedingly light, and, without further remedy, the disease will disappear in a few days.

When the disease descends to the lungs, and the cough becomes considerable, antimonial mixture is the best remedy. Take two grains of tartar emetic, and one drachm of nitre, dissolve in half a pint of water, and give a table spoonful once in three or four hours. If it operates as an emetic, reduce the dose to one half, or even less; but the remedy should not be dispensed with, till the cough is greatly alleviated, or a free discharge of mucus from the lungs, is brought on. In worse cases where the fever is high, the cough incessant, with more or less pain in the breast and head, the remedy should be given in a more decided way. In these cases, a table spoonful may be given, every half hour, till a full emetic effect is produced.

Should the cough continue troublesome after a day or two, the antimonial mixture should be continued, in greatly reduced doses. A tea spoonful, three or four times a day, will probably be sufficient. When the cough is very troublesome at night, and the remedies we have spoken of, have been administered for two or three days, the patient should take, on going

to bed, a full dose of antimonial mixture, with thirty drops of laudanum. This is an exceedingly valuable combination of remedies, and may be repeated, from night to night, as long as the symptoms require it.

Alkalies have been extolled in the treatment of protracted cases of whooping cough; and I have found them, as I think, a great deal more valuable in the treatment of common colds. When the cough proves obstinate, and the fever is protracted, the digestive powers are very much impaired, although the appetite for food continues. It is in these cases, and they form almost every case of cough which lasts for two weeks, I advise the following prescription. Take half an ounce of carbonate of soda, dissolve it in a gill of cold water, and give two tea spoonsful, three times a day, after meals. The dose may, without inconvenience, be doubled, where, from the symptoms, much disorder of the stomach is found to be present. Where the soda is not at hand, the common preparation of potash or sal-aeratus, may be substituted, and used in the same manner and quantity. This remedy may be used at any time in the progress of the disorder. It is least called for in the first stage, when the patient is usually restricted to low diet; but when the appetite is good and much food taken, this mode of using alkalies will be found very beneficial. It is surprising to witness the sudden cessation of the most distressing cough, from a few grains of soda given in this way.

There has somehow, got into the world a very mischievous proverb, "starve a fever, and feed a cold." That part of this *old saw*, which prescribes food for a cold, has done more than a little harm. Almost every cold that requires the use of any remedy, is attended with an inflammatory fever which requires anything rather than food. The true rule is, to regard this fever as the criterion by which to prescribe in the disease; and, while its symptoms continue inflammatory, the regimen ought to be proportionably low. For the first week, the person who is attacked with a severe cold, ought to forbear the use of animal food, and even live on a restricted amount of lighter articles. It is not the continuance of the cough, but of the fever, which forbids the use of nutritious food. But the cough is very often kept up by the stimulating effects of hearty food; for patients, in this disease, are generally not so sick, as to consider themselves under the necessity of obeying very close restrictions in diet.

---

CROUP.

The rage for coining names has been played, on this formidable disease, to less injury than that of most others. It is known by the same name in England, and on the continent of Europe, as well as in the United States. And it can hardly be said, that its technical cognomen, is as well understood even in the halls of science, as the common name of croup. It is said that in some parts of the United States, the disease is known by the appellation of hives; but I am persuaded that this term is no where extensively used; and the term croup brings to the mind a vivid idea of the same disease, in all parts of the country.

Inflammation of the mucous membrane of the larynx, extending down the wind pipe towards the lungs, constitutes croup. This inflammation is of the kind which throws out on the surface the albuminous portion of the blood, forming a coating which sometimes, in protracted cases, becomes a membrane and is separated; very much resembling the finger of a glove, formed of some very fine skin. The symptoms of croup are, nevertheless, present, previous to the formation of this membrane; and, in many instances, death occurs without any formation of the kind taking place.

Croup, many times, takes place in complication with extensive inflammation of the lungs. It is a disease of childhood; and, in these cases, the child may be said to labor under pneumonia, or pleurisy, and croup at the same time.

## CAUSES.

We have said that childhood is the age of croup; and this is manifest from its appearing almost exclusively in children before the age of puberty. It arises from those causes which produce a common cold; and of these, exposure to dampness, and great changes in the temperature of the atmosphere, are the chief. But the disease is sometimes epidemic, occurring, in many cases, about the same time, without any obvious state of the atmosphere to account for it. And it has been observed, in other instances, to take up, as it were, a local habitation, producing many cases in one part of a city, while the children inhabiting the other parts, were entirely free from its attacks. Since I have been an observer of diseases, the croup has pas-



sed through a considerable change in the district of my observation. About thirty years ago there were many cases, and this continued for several years; the disease has since declined in its frequency, so that I now seldom meet with it. This difference in frequency is too great to have been overlooked. The cases in which I was in the habit of meeting with it, in those years, in the course of one winter, were at least ten times as numerous, as they have been for the last five years.

#### DESCRIPTION.

Croup, in its mildest form, has great resemblance to a common cold. The attack occurs with hoarseness, cough, and some fever, frequently with vomiting, which discloses a state of acidity of the stomach, and great derangement in digestion. The cough and hoarseness are peculiar, producing a sharpness in the voice not common to the patient. In the majority of formidable attacks, the disease comes on suddenly, after the child has been some hours asleep. The parents and nurses are aroused by the dreadful sound of *croupy cough*. This sound, when once heard, will not be easily mistaken. It has been compared to many noises, the barking of a little puppy will probably furnish as good an idea of it, as I can give. The child will commonly sit up in its bed, and, on examination, it will be found to breathe with some difficulty. Its respirations will be slow, with considerable noise or hissing. The cough, though not incessant, will be very frequent; and, in a short time, the face will be flushed, the eye tearful, and the countenance peculiarly anxious, and distressed. As the disease progresses, the pulse becomes hard and quick, the thirst great, and the skin dry, the urine scant and deep colored, and the eyes swollen or blood shot. The anxiety and restlessness which now come on are extreme. The breathing, though not very frequent, is sudden; and, at each effort to breathe, a sudden pitting is observed at the pit of the stomach, and at the bottom of the neck. The skin becomes mottled, the nails purple, and, if not arrested by efficient remedies, the case terminates fatally, in from one to two days.

In many instances, the disease seems to give way to the first remedy used; an emetic probably seems to put a period to it in a few hours; but such recoveries are to be looked on without much confidence, for the patient is too often attacked again, in the same manner, the next night; and then the case is apt to be more formidable.

Croup is not always so violent and acute a disorder as we have described. It is sometimes much slower in its progress, and lasts from a few days to two or three weeks. These cases are scarcely less dangerous than the most acute. The sound of the cough will be very much the same with the acute disease; but it returns much less frequently. The child will, many times, seem to be free from any pain, and play about the house without complaint; still it has fever, with considerable rapidity and hardness of pulse, with the characteristic rough, hissing sound in its breathing. In this manner the case, if not arrested, will gradually grow worse, from day to day; and the termination will be with symptoms very like those we have described above.

This disease does not always terminate when its symptoms are relieved, but often becomes protracted into a sort of second stage. The characteristic breathing and rapid pulse will continue, but with a great degree of mitigation. The secretions of the lungs begin to be more abundant, but are yet exceedingly tough, so that they are coughed up with great difficulty. Every movement of the chest appears at length to become painful; the breathing becomes a low sort of wheezing; and if the patient desires to speak, it is done in a low, whispering voice. The tongue becomes loaded with fur, stools dark and fetid, hands and feet swollen and cold, and death too often follows, when during a great part of the disease the symptoms had not appeared to be formidable.

In some cases, the patient seems to be borne out by the powers of nature, through every difficulty. The discharge of mucus and pus by coughing, becomes very considerable; and, in some instances, a large portion of membrane is coughed up, and safely discharged; but this is done through imminent danger of suffocation and death. Slow recoveries sometimes happen after this dreadful extremity.

Croup has appeared under so many circumstances, and complicated with so many disorders, that writers seem to have fatigued themselves with their narration. I have met with only one of these on which I think it necessary to make a few remarks. I have, in teething children, met with croup that seemed to rest entirely on a disordered stomach, always occurring after over-eating of indigestible food. These cases are quickly relieved by an emetic, and require nothing peculiar in their treatment, except a diligent regard to proper food.

## TREATMENT.

The attack of croup is always regarded as formidable; and the influence of the hurry and confusion which takes place in families in which it occurs, should be guarded against by the physician. He should investigate the case with sufficient calmness, and especially ascertain all the remedies which have been used.

The first, and most valuable remedy in this disease, is tartar emetic; and it is to be given in doses far beyond what would seem proper to a patient of the same size and age, in another disease. I combine the remedy with nitre, believing that in this combination, it is a more efficient and powerful remedy. For a child six years old, take six grains of tartar emetic, and two drachms of nitre, and dissolve together in half a pint of water. A tea spoonful of this mixture may be given every half hour, till it operates as an emetic. If the tea spoon is large, the first dose may be made rather small, but if this dose produces no effect in half an hour, the second may be given without any abatement; for, in this disease, the stomach often bears an incredible amount of this remedy. I have given the whole of such a mixture as I have described, containing six grains of tartar emetic, to a child of four years old, in less than twelve hours. This amount should only be given in the presence of a physician, but in the event that this responsibility is obliged to be taken by others, I may remark that the medicine is to be made to operate as an emetic at almost any hazard; for it is through this action, that relief is to be expected.

If the emetic fails to operate, on giving a second or third dose, the child should, if possible, be induced to drink large quantities of tepid water. A few grains of ipecac will sometimes bring on the emetic action, in a few minutes. Where the danger seems to be imminent, and the breathing very much impeded, vomiting may be brought on by forcing a feather down the throat. By these means the action of the stomach will commonly be brought on, within an hour or less. The patient is then to be carefully watched. If the stomach becomes quiet, and the respiration becomes worse, with an increase of fever, the same remedy is again to be repeated, in the same manner. And thus the contest maintained till the disease is vanquished, or until the strength of the patient fails. In almost every case, relief, more or less perfect, will be obtained, by the action of the emetic.

We are not allowed to restrict ourselves to the use of a single remedy, in this formidable disease. Many cases, it is true, will yield and finally disappear from the use of tartar emetic alone; but patients in this disease are not always so fortunate. The relief obtained by the use of an emetic alone, is imperfect; and the disease is found to be gaining, rather than losing ground. In some cases, indeed, emetics seem to give but little relief. This, I am bound to state, because it is so stated, by eminent men who have seen the disease in higher latitudes, where it is much more common and dangerous than it is here. But, in my own hands, a decided operation of tartar emetic, has scarcely ever failed of producing a very decided improvement, if not total relief. But should this relief fail to take place, I concur fully in the recommendation of bloodletting, as the next best remedy. This operation is not always easily performed on children, and when it cannot be done, leeches may be substituted. Blood should be drawn in this case copiously; four ounces have been advised for a child of two years old. This, I think, a very large quantity; and I should not advise it, except the case appeared extreme. Cupping might be employed in the neighborhood of the parts; on the back of the neck for instance, or on the sternum.

The state of the bowels is not to be disregarded, in this disease. It is by no means desirable to produce, in a very early stage of the disease, copious watery discharges by the bowels. On the contrary, when such discharges occur from the use of tartar emetic, and that remedy fails to produce its usual emetic effect, the patient may well be considered in extreme danger. But where the emetic has operated favorably, it should be followed on the next day with a dose of calomel. Five or six grains may be given, in syrup, to a child of six years old. This will commonly operate, and need not be repeated, unless the case prove obstinate and protracted. In that case, it is recommended to give calomel, daily, two or three grains a day. I advise that this should be done only two or three days in succession, unless it is followed by a decided and free operation by the bowels; for, although salivation is not much to be apprehended in these cases, I think calomel is to be used with that watchfulness which the remedy requires, in children of tender age.

Blisters I have used with striking and beneficial effects. After two days treatment, if the fever is considerably reduced, and the medicine has operated copiously, and the cough and other symptoms of the disease still remain; a large blister



should be applied to the breast ; and suffered to remain until fully drawn.

The practitioner is to meet croup without too much confidence in the power of his remedies. He is constantly to apprehend a fatal result, and be prepared for the worst. When the difficulty of breathing continues to increase, the face to become a little swollen, the eyes bloodshot, and the countenance more distressed, warm bathing has been highly recommended. I have never used this remedy with much success ; for the patients whom I have found in a state to demand its use, and in whom emetic treatment had failed to arrest the disease, have sunk under the disease. Still I would use the warm bath, for I have no doubt it is sometimes successful, even in very bad cases. If warm bathing is used, a vessel large enough to admit of covering the body of the child, should be used, and the water should be as warm as it can be well endured. The water should be about the warmth of blood, but should not be tested by merely feeling with the hand, for the water in which the hand may be easily held, might prove intolerably hot to other parts of the body. This suggestion is sufficient to enable any one, with ordinary discretion, to avoid the error of using the water too hot. The bath should be continued till it produces a degree of weakness, which may be observed by the attendants ; the child will become restless and strive to escape. Probably from fifteen to twenty minutes, is as long as it should be continued at one time.

A great deal has been said on the use of sudorifics, or sweating medicines, in obstinate cases of croup. To bring about perspiration, various remedies have been recommended ; the warm bath we have already spoken of, but steam and vapor baths have also been recommended. Of the internal remedies which produce perspiration, seneca snake root has had the most reputation. Dover's powder has also come in for its share of regard in these cases. Now I have not much faith in all or any of these means of exciting perspiration in croup. Where cases prove obstinate, and a copious discharge from the lungs is brought on by coughing, I can readily suppose that the use of opium, in the form of Dover's powder, would be serviceable. This remedy, and no other, do I recommend to produce perspiration, in any stage of croup. Where the disease has continued for a number of days, and the cough, with free expectoration, is still troublesome, take six grains of Dover's powder, and give it in a tea spoonful of water. This dose is sufficient for a child six years old ; and this remedy,

in larger or smaller doses, may be, from time to time, repeated, till the distress, from cough and copious expectoration, has passed off.

---

### INFLAMMATORY CATARRH.—BRONCHITIS.

I have not undertaken to reform the old, or establish a new system of medicine, and therefore will consider separately several disorders which might be more beneficially treated of together. Inflammatory catarrh runs so readily into pneumonia or pleurisy, has so many of the same symptoms, and requires so nearly the same treatment, that it may well be doubted whether its discussion should be made a separate article. Its technical name bronchitis, is also becoming almost common language, and it would perhaps be on that account the more expected, that a particular and definite view of the subject should be given separately.

The organs affected in bronchitis are the same as those affected in common cold. It consists in an inflammation of the mucous membrane, of the wind-pipe, extending down to the lungs. The inflammation is, however, not of the intense kind which prevails in croup, and the membrane throws out, not a tough albuminous matter, but a lighter mucus, which is thrown off by expectoration. No disease differs more in its degree in different cases. In some instances, the character of the inflammation seems to be mild, and free from danger; in others, it pervades very extensively the air tubes of the lungs, producing violent fever and great danger.

Few diseases appear under more complications than this. It is very frequent in fevers of various kinds; measles, typhus fever, remitting fever, and even rheumatism, are frequently attended with this particular affection of the lungs.—Influenza also very commonly produces it, and in many instances, persons who are to all appearance attacked with a common cold, run rapidly into an alarming disorder of this description.

The difference between this disease, common cold, and influenza, are not always very easily seen. All these diseases may run into bronchitis, and are known to have done so only by the graver symptoms, and more alarming febrile state of the patient.

Bronchitis is not always an inflammatory disease; and this forms the strongest reason for giving it a separate and particu-

lar consideration. Its symptoms have, under all circumstances, very great resemblance; but they are not always to be treated with the active remedies for inflammatory disease.—On the contrary, there is sometimes present a debility and prostration, that requires a treatment exactly the reverse. It is our object particularly to point out these varieties, and assign to each its proper remedies.

#### ACUTE INFLAMMATORY BRONCHITIS.

This form of bronchitis comes on with coryza, or the watery eyes and sneezing of a newly taken cold. Very soon, a pain and tightness across the breast is felt, attended with cough, and very often bloody expectoration; chills or a certain shuddering in the midst of some fever, with a very hot dry skin and quickened breathing, attend this early stage of the disease. As it progresses, the tongue becomes red, the pulse quick, full, and hard, with pain in the head, back, and limbs, and scanty, high-coloured urine. If the disease goes on increasing, for two or three days, the pain and soreness in the breast are greatly extended; the cough is violent when excited by any change of position, or other slight cause, the patient lies particularly on his back; towards night the symptoms increase, and a very great degree of restlessness is commonly experienced.

If the disease is not promptly arrested in its progress, a rapid change in the state of the patient takes place; great debility, feeble pulse, pale countenance, anxious and staring expression, coated and brown tongue, with bloodshot eyes, and delirium come on. This downward course is sometimes exceedingly rapid, producing death in a few days.

The typhoid, or low chronic form of bronchitis, commences with symptoms very much resembling those which attend the termination of the disease, in its acute form. Great debility attends the disease, even in the outset; the pulse is small, quick and irregular, the tongue foul, sometimes brown, the urine, at first, pale and copious; but, after a few days, very scanty; the extremities are cold, the voice feeble, and very often great pain in the head. From the first, there is considerable cough, and, very soon, a thin and copious expectoration follows. The disease endures longer than in the inflammatory form.

#### TREATMENT.

In its first stage, this disease will require the active treat-

ment that other inflammatory disorders demand; blood-letting should be ordered without delay, and antimonial mixture should be immediately given. Take two grains of tartar emetic, and two drachms of nitre, put it into half a pint of water, and give of this mixture, a table spoonful every hour. The operation of this medicine should be carefully noticed; if the extremities become cold under it, and the pulse weak, and especially if the medicine operates upon the bowels as a cathartic, give, without delay, a decided dose of landanum; from sixty drops to a tea spoonful, according to the urgency of the case. This prescription is deemed especially necessary here, because this form of the disease of the lungs, is particularly subject to run suddenly through an inflammatory into a typhus state.

The disease will seldom disappear from the use of a single prescription. Indeed it sometimes seems to have a definite course to run; it will last to the ninth or eleventh day, in spite of all that may be done. We should be on our guard then against the use of remedies too active; for, although we may greatly benefit our patients by moderating and reducing the grade of diseased action, it would be fatal to him to press these remedies too far. If, after the second day, the fever continues high, with dry cough, calomel should be given: four or five grains a day, from day to day, for three or four days, if the decline of the patient's strength or the disorder does not sooner admonish us to suspend it. The antimonial mixture may still, if necessary, be continued, in such doses as the patient's stomach is found to bear, without producing vomiting.

Opium is a valuable remedy in this disease. It is to be given as before suggested, after the active operation of medicine, or at night when the patient is restless, and the cough troublesome. If the expectoration is free, the laudanum is the more necessary.

In the typhoid or low state of this disease, whether it comes at its commencement or towards the close of the inflammatory disease of which we have been speaking, the remedies should be of the most powerful, stimulating, and supporting character. The name of inflammation carries with it the idea of forbearance in the use of stimulants; but in these cases we find a decided exception to that rule. Here there is more reliance in opium than in all other remedies combined; it is to be given twice or oftener in twenty-four hours, according to the urgency of the symptoms. Where the extremities are



cold, the pulse feeble, and the lungs loaded with mucus, which is coughed up by the mouthful, laudanum should be given in decided doses; sixty drops, once in twelve hours, is a moderate use of the remedy; and this dose may be given every six hours, where the symptoms seem to demand it.—Camphor is often beneficially combined with laudanum, in these cases. A strong spirit of camphor in equal quantity, may be combined with the laudanum.

Blistering is a valuable remedy in bronchitis, whether the disease be more or less inflammatory. A large blister should be applied over the region of the pain, and suffered to remain until fully drawn.

Cathartics are a doubtful remedy in bronchitis, in any form. In the typhoid, they are decidedly improper; yet if the calomel which has been advised, is, for any reason, omitted, and the bowels prove costive, they may be moved by a moderate dose of castor oil; but this should not be repeated more than once in three or four days, and when given, should be carefully noticed, and checked with laudanum, if it operates more than two or three times.

The complications of this disorder with measles, scarlet fever, small-pox, or other diseases will be treated of when we speak of those diseases.

#### CHRONIC BRONCHITIS.

The same mucous membrane of the lungs, which we have been considering in its acute forms of disease, becomes sometimes so affected with inflammation, as to endure for a great length of time without destroying the patient. In this form of bronchitis, the patient is not confined to his bed, perhaps continues able to attend to ordinary business, while still labouring under this harrassing and dangerous disease. And here again we are bound to acknowledge, that we are not always able to decide whether a common cold may have terminated in this disease or not.

The leading symptom of chronic bronchitis is cough.—The disease is most common in old persons, and is not attended with much pain, and the cough is, many times, absent for hours together. But when it comes on, the patient does not get relieved from it, till he has expectorated more or less freely. To this, however, there are some exceptions, especially in the aged, for they frequently have habitually, a short cough from this disease, with but very little expectoration at any time.

The progress of this disease is slow, and if in its course the patient is attacked with any other disease, he will probably have to endure both that and the bronchitis, with aggravated symptoms. Hence it is so often met with in fevers of various kinds, and hence it often runs on to a consumption, and is charged, whether, justly or unjustly, with producing that fatal disease. Certain diseases of the skin sometimes seem to have great influence on bronchitis; an eruptive disease, while the discharge from it continues, in many instances relieves it. But if by treatment, such disorders are relieved, the bronchitis grows worse. It should be recollected, however, that some of these eruptive diseases have a venereal origin, and yield to the use of mercury, which also, in those cases, relieves the disease of the lungs.

#### TREATMENT.

The chronic character of this disease, admonishes us against the use of remedies which are too active. If the symptoms are inflammatory, pulse strong, and skin hot, bleeding, in small quantities at a time, may be repeated, from time to time.—Eight ounces of blood would be enough to be drawn at any one time.

Mercury is decidedly beneficial in these cases; it should however be given in moderate quantities, and in its mildest form. Salivation should be avoided. The following is a very good prescription; take of blue mass sixty grains, and divide into sixteen pills. Of these, take one a day. Where the cough is very troublesome at night, and has continued for a considerable time, opium may be combined with the blue pill, a grain or more with each pill, according to circumstances. If the blue pill is not at hand, pills, of a grain of calomel each, may be substituted for the blue pill. These mercurial remedies may be continued while they appear to be beneficial; and there are few persons who may not use them for a month together without producing salivation.

In many cases it is desirable to avoid the use of mercury, and where it has been used for several weeks without obvious benefit, it should be abandoned. Ipecac should be used in these cases. It may be used in combination with opium; and Dover's powder forms perhaps the best combination of this description. It may be given in doses of eight or ten grains, once or twice a day. If the cough is hard, and very frequent, it will be well to increase the quantity of

ipecac. Take twenty grains of ipecac, and make it into twelve pills. Five or six of these may be given in the course of the day, and thirty drops of laudanum given at night. In cases of great irritation, where these remedies do not afford relief, the following pill may be tried: take of calomel ten grains, tartar emetic six grains, opium twenty grains; unite these articles, and make them into twenty-four pills, and give two or three a day, according to circumstances.

Great use has been made of what have been termed expectorants, in this disease. Experience has so deprived these remedies of their reputation, that it becomes difficult even to point them out. The balsams have, however, a small amount, perhaps even too little confidence extended to them, in this respect. Of these balsams, the balsam copaiva is decidedly the best, and may be used in doses of twenty drops, on sugar, three or four times a day. Where the expectoration is copious, and the discharge a thick, yellow, mucus, I should give this remedy with considerable confidence; indeed I think I have seen it very beneficial under such circumstances. Syrup of squills is also a valuable expectorant, and may be given in doses of sixty drops, twice a day.

Great attention to the state of the stomach, should be paid in this disease; for it is very commonly attended with great disorders of the digestive powers, and, I think, very frequently arises from those disorders. The diet should therefore be of the lightest and most digestible kind; yet it should be sufficiently nutritious, for, in this, as in many other chronic disorders, the patient should not be placed on a regimen too low. In connection with this part of the subject, I may call particular attention to the use of alkalies. These remedies neutralize the acid which is so often present on the stomach, in these cases; but they do more; they remove the irritation which is productive of great aggravation of the cough, and thus save the patient from the most painful part of his sufferings. I have used these remedies, with the greatest satisfaction, in these cases. I advise the following prescription: take of carbonate of soda an ounce, water eight ounces, mix together. Of this solution, half a table spoonful may be given, after eating, and repeated several times in the course of the day, if the cough proves troublesome.

Where these cases continue, and our patients are reduced to a great degree of prostration, the usual tonic medicines, or mineral waters, may be used as restoratives. Take of ex-

tract of gentian, and precipitated carbonate of iron, combine them in such quantities as to make a mass for pills, and form into pills of four or five grains each. They will be of the ordinary size of cathartic pills, and of these pills, three or four may be taken a day. If the patient is much reduced, tincture of gentian may be substituted: a tea spoonful in water may be taken, three or four times a day. Wine and spirits come in at this stage of the disease, as beneficial remedies. They may be used at the discretion of the practitioner.

---

### INFLUENZA—EPIDEMIC BRONCHITIS.

This disease has not been intelligibly described till within the last century; but its resemblance to those disorders of the lungs which arise from cold, and other occasional causes, is so great that it is not at all surprising, that its peculiar character should have been so long overlooked. Its resemblance to common cold, is so great, that it cannot be discriminated by the symptoms of a particular case; its presence is known only by the suddenness with which whole states, and indeed whole continents, are involved in it. It was for a long time thought to spread by infection; but the rapidity of its progress is such, that it is obviously impossible that it should depend on that cause; and we are left to conclude, that there is some general influence in nature from which it arises; but what that cause may be, is entirely beyond our comprehension.

The visit of influenza is known by the sudden attack of a great many persons, at once, with the symptoms of common catarrh; but the violence of these attacks differs greatly, at one time from another. In some instances, there are but few cases which excite much alarm; but, in others, the attack is generally formidable, and very destructive to life. Although I have no notes or memorandums of its progress in this country in 1807, I well remember the consternation it produced, and the many cases of mortality which, in that year, attended its progress at the South.

The manner in which this disease sweeps over the land, is perhaps the most astonishing fact in its history. Its appearance is not more sudden than its disappearance; and it sometimes attacks, in a few days, all that are to experience its influence at that time. And this occurs without regard to seasons of the year, or any obvious condition of the atmosphere.



I believe the cause of influenza in different epidemics, differs only in degree ; and that the varieties which appear in different cases, depend on the peculiar state of the atmosphere, and disorders of the persons attacked at the time of its prevalence. Its complications with other disorders are many ; for few escape its attack, and therefore those who have other disorders, labor under the attack of both diseases at once. Its attack is most formidable to those who have diseases of the lungs. It is much to be dreaded by those who have chronic disease of the liver and spleen ; and to such as have chronic diarrhœa or dysentery, its attack is also a serious addition to their diseases.

#### TREATMENT.

The treatment of influenza is to be regulated by its symptoms. It is, in many instances, but a common cold, in appearance and degree, and should be treated accordingly. Where the attack is more serious, it is a bronchitis, and is to be treated as we have directed in that disease. But it should be borne in mind, that this is an acute disorder, from a cause which is temporary, and that its treatment should be proportionably prompt.

There is a very important precaution to be taken in influenza. The suddenness of its attack, the numerous cases presented, and the alarm which naturally arises, are too apt to make us think that it is of course to be treated by the most active depletion. On the contrary, when the disease is of the highest grade, it is aptest to bring on those typhoid symptoms, which forbid the use of depletion. The remedies of an active kind ; bloodletting, antimonials and cathartics, are to be used more sparingly, during the prevalence of this disease as a general epidemic, than in solitary cases of the attacks of similar disorders, when there is no epidemic prevailing. It will generally be proper to give, in the first instance, ten grains of calomel, to be followed in six hours, if necessary, with a Seidlitz powder, or small dose of castor oil. If, on the next day, the disease does not seem to have abated, give the antimonial mixture in broken doses ; but not in such quantity as to operate very violently. In worse cases, where the fever is high, and the pulse full and corded, it may be well to bleed at the arm. These remedies are all that will be found necessary in common cases.

The typhus cases, which forbid the use of active treatment, are known by the prostration of strength which attends

them. In these cases, the pulse is feeble and rapid, and, in extreme cases, the nails purple, and the extremities cold. In some instances, there is a flushed cheek, while the rest of the symptoms of the prostration we have described, are present. Great caution is to be used in administering evacuating remedies in these cases. Calomel, in combination with opium, is the remedy on which our principal reliance must rest. Five grains of calomel and two of opium, may be used at a dose, and repeated once, twice, or three times, in twenty-four hours, according to the violence and danger of the case. Where the case is extreme, other stimulants should be used. Brandy is perhaps the best, and may be used in such quantity as the case requires; a gill or more, in the twenty-four hours; and it is to be remembered, that in using this article, the quantity is to be increased where the prostration of the patient has been sudden and great. It may be used to the extent of a pint or more in twenty-four hours.

Counter irritants which act promptly, such as blisters, mustard, or cayenne pepper, may be used with great benefit, in these cases. And we may close with the remark, that the name of influenza, is not to be prescribed for, but the symptoms of the inflammation of the air-passages of the lungs. These symptoms are to be treated, in this disease, in the same manner as if they had been brought on by any other cause. What we have said in reference to the acute form of bronchitis, is equally applicable to influenza, and should be read in connection with its treatment.

---

### DRY COUGH—DRY CATARRH.

The circumstances under which cough may take place, are of almost infinite variety; and it will be almost impossible to so describe them, as to put the common observer in possession of a tolerable knowledge of the cases, which may present themselves. The case which we are about to consider, occurs without any obvious remote cause, is most frequent in old persons, but frequently occurs in youth, and childhood, where the lungs are of peculiar susceptibility. The cause most frequently assigned for this cough, is cold; but this would not produce a permanent disorder of this description, without a peculiar liability in the individual attacked. In young persons, an obstinate dry cough may also be suspected of a tendency to asth-

ma, if not consumption. In old persons, a cough of this description is frequently met with, and may be very obstinate, without reasonably exciting so much alarm; "an old man's cough" is a sort of proverbial expression. There is one cause which is very frequently the foundation of this disease, without its being suspected; this cause is indigestion, or irritation of the stomach, frequently renewed.

We have characterised this disease a dry cough; but it is not so dry but that there is, from time to time, a transparent glairy fluid raised by coughing; this sputor sometimes becomes grayish, and less tough; and when the disorder is a little aggravated by a common cold, or becomes worse of itself, a yellow mucus is discharged in considerable quantity. The cough comes on in paroxysms, especially early in the morning, after a sound night's sleep. At these periods, the cough will be, for a considerable time, violent, and a greater amount of matter will be raised from the lungs in half an hour, than in the rest of the day. But this discharge of matter does not appear to afford the patient much relief. On the contrary, his voice is rather made hoarse by it, and his breathing, for a considerable time, will be difficult, and sometimes with wheezing. Persons in this disease, enjoy a tolerable degree of health for many years; but it is a source all the while of particular danger, and should be carefully regarded, and diligently treated.

#### REMEDIES.

Where the dry cough is produced by irritation of the stomach, especially when acids caused by indigestion produce it, the use of such absorbents and alkalies as correct this acid, is attended with the greatest benefit. These remedies should be habitually used. Fifteen to thirty grains of prepared chalk, may be given, two or three times a day, especially after meals. A solution of carbonate of soda, or potash, may be used with equal benefit. Dissolve an ounce of carbonate of potash, or soda, in eight ounces of water, and take a small table spoonful after breakfast, and after dinner. But these remedies, although exceedingly beneficial, do not strike at the cause of the disease, and are not to be used to the exclusion of others. In serious cases, where the cough is distressing, and the patient not too much exhausted, give the following pill: take of calomel twenty grains, powdered squills sixty grains, mix together, and make into twenty pills; of these pills, one, two, or three a day, may be used, according to circumstances. But it is to

be observed, that three a day will probably, if continued for a week or longer, produce salivation. The variety of syrups, mucilages, and expectorant mixtures, which have been recommended, need not be recapitulated here. Where they are not made too stimulating, by the addition of balsams and spirits, they are not objectionable; they may contribute to the patient's comfort, if not to his safety.

This disease sometimes runs to extremity, and patients are reduced by it to the verge of the grave. Laudanum, which in its earlier stages, is productive of more harm than good, becomes, at last, a valuable remedy; thirty drops may be given, once or twice in twenty-four hours. Ten or fifteen grains of Dover's powder, may be given in place of the laudanum, where it can be taken without exciting vomiting. In this stage of the disease, tonics and stimulants become necessary. The extract of gentian in pills, used alone, or in combination with carbonate of iron, will answer the purpose as well as any other. Brandy or wine may be used as a stimulant, at the discretion of the person affected. A single remark, and we have done with dry cough. Where it arises from a disordered stomach, it is by no means to be considered an incurable disorder, although the patient be old. Diligent attention to the digestive organs, is especially demanded in these cases. The patient is to be considered a dyspeptic, and is to be treated with all the diligence necessary for the removal of that disease.

---

### ASTHMA—PHTHISIC.

This disease is universally known by the difficulty of breathing it produces. It occurs under various circumstances, is restricted to neither age nor sex, and may continue throughout a reasonably long life. Its cause is not known; and it is barely suspected to be a spasmodic disease of the muscular fibres, of the air vessels of the lungs.

The obvious causes which bring on attacks of asthma, are those which act especially on the lungs. Changes in the atmosphere, suffocating gasses, dust, and other similar causes, often bring on the attacks of this disease. I have known individuals who did not dare to enter a flouring mill, and one poor boy who did not dare to ride a horse carrying a bag of flour, for as sure as he did so, he would experience a violent paroxysm of asthma. Causes operating through the mind,



sudden emotions of any kind, have also been known to bring on the attack.

#### SYMPTOMS.

Persons subject to asthma have always seasons of respite ; sometimes they pass weeks, even months, without feeling the disorder. The attack usually approaches, with pretty obvious pre-disposing symptoms. The stomach becomes very much disordered, vast quantities of air are belched up, and thrown off from it ; great languor and heaviness prevail ; and the patient, although not experiencing any particular pain, is under an indescribable oppression. The paroxysm at length comes on very suddenly, commonly at night. Great constriction of the chest, and difficulty of breathing force the patient to rise, and throw himself in a position to expand his lungs to the greatest extent ; his respiration becomes loud and wheezing, and his demand for fresh air irresistible ; he will throw open the window and expose himself, half clothed, to the air, however inclement the weather. And it is observed, that exposure under these circumstances has seldom resulted in any injury. In this state of agony, the face is haggard and pale, the extremities cold, the body covered with perspiration, and the pulse small, quick, and frequent. As the disease progresses, the pulse rises, the face becomes flushed, and the skin dry. The patient is no longer compelled to retain his position at the window, but retires to some part of the room, where half seated, and half lying, he obtains a slight degree of remission from his sufferings. These symptoms sometimes continue for two or three days, when they gradually subside, and the patient is restored to about the same degree of health, he had previously enjoyed.

In this disease, each case is a particular study. It is agreed that we have no specific remedy for it, and that our efforts are limited to lessening and guarding against its remote causes, and palliating the distressing symptoms of the paroxysm. Now every paroxysm seems to enlighten us, on the causes which induce it, and the patient who notices these circumstances will be greatly benefited by care in avoiding them. If for instance, his paroxysm comes on after eating a supper of lobsters or fish, or any other cause which produces disorder of the stomach, he will know how in future to avoid such an error. If confined air in a close room brings it on, he will seek a remedy in the open fields, and if the luxury of lying in bed proves an

exciting cause, he will forsake and abandon even this luxury, and spend the nights of a hard life on chairs or sofas.

#### TREATMENT.

It is agreed that there are cases of this disease particularly nervous, where the use of stimulants, such especially as opium and asafoetida, are administered with success. These cases, I must consider rare; for I have not, in all my practice, met with a single one of them. In every case that I have treated, any stimulant administered at the onset of the disease, even a dose of laudanum, has been attended with an aggravation of the symptoms. Yet I feel bound to consider such cases not very uncommon, and where the patient was particularly nervous, and especially where the attack had been brought on by any sudden excitement of the mind, I should feel authorised to administer a stimulating anodyne; sixty drops of laudanum, or something equivalent.

In a great majority of cases, where the attack has come on suddenly, and the patient is not exhausted to a very low and dangerous degree, I give, without delay, an emetic of antimonial mixture. Take two grains of tartar emetic, and a drachm of nitre, put it into eight ounces of water, and give a table spoonful every fifteen minutes, till it operates as an emetic. Where the patient knows by former experience, that an ordinary dose of 'emetic medicine' will not operate, the tartar emetic may be increased in due proportion. If this remedy does not afford relief, and the countenance becomes flushed, and the pulse strong after the operation is over, a pint of blood may be drawn from the arm. These remedies have succeeded so well, in my hands, that I do not know from experience much of the operation of others. There are, however, several which have been highly spoken of. The best of these is lobelia, and although I have not myself administered it in these cases, I think it merits a trial wherever the disorder is obstinate, and subject to frequent returns; for there is reason to believe, that the interval which will succeed the use of this remedy, will be more perfect and longer than after the use of other emetics. In cases in which the paroxysms become as it were chronic, and the patient is almost all the time tormented with great difficulty of breathing, preparations of squills have been beneficially used. From thirty to sixty drops of syrup of squills, may be taken, three or four times a day.

The intervals, or marked remissions, which take place in this disease, would appear to afford the most favorable time for its treatment and cure. Less benefit has been derived from remedies given during these remissions, than might have been anticipated. I have found a remarkable difference in the condition of different individuals, during the remissions in this disease. In some, there is a decidedly inflammatory diathesis prevailing all the time. And to such I have administered antimonial mixture, continued for a great length of time, with much benefit. In these cases, I have lessened the tartar emetic, and increased the nitre used in the prescription. Take one grain of tartar emetic, and four drachms of nitre, dissolve in half a pint of water, and give two tea spoonsful, three or four times a day. I have used this remedy for many days in succession, with the greatest advantage. But in other cases, the patient seems to be too much debilitated for such a course, and the stomach especially seems to lose its tone, and to require tonics and stimulants, for the restoration of its powers. The particular tonics suited to this disease, have been thought to be mineral waters; especially those containing iron, together with travelling, and gymnastic exercise. There is no disease in which free exposure seems more beneficial. I have known a gentleman who seemed scarcely capable of living, except when exposed like a common waggoner, encamping in the open air, enduring great fatigue, privation, and hardship, and seldom entering a house. A return to the comforts of a close dwelling and warm bed, was almost sure to bring on a violent attack of asthma.

I have omitted to mention a remedy of considerable power which has been much used in this country; I allude to the stramonium, or Jamestown weed. I have never administered this remedy in substance, but have often advised the dry leaves, or dead stalk of the plant reduced to dust by rasping, and smoked like tobacco in a pipe. This sometimes affords great relief during the paroxysm, and should be tried by persons who are sufferers from this disease.

A perfect cure in asthma is not to be promised to our patients; it is too rarely so perfectly removed that it will not return again, when the patient is exposed to its exciting cause. Still the benefits of a systematic treatment, and the proper administration of remedies, from time to time, are very great.

---

### HOOPING COUGH—PERTUSSIS.

This is a disease, which is experienced but once in life. It is commonly a disease of childhood, spreads through families, and sometimes through the country, as a general epidemic. It has long been considered contagious; but it is now doubted, whether hooping cough arises from contagion, or from some inscrutable influence or cause in the atmosphere.

The leading symptom of this disease, as its name implies, is a cough. In its commencement, its resemblance to an attack of common cold, is too close to be successfully discriminated. After a few days, the peculiarity of the symptoms begins to manifest itself; the cough comes on in paroxysms, after considerable intervals. The attack is sudden, the cough forced on a great many times in one breath, with such a total expiration of the air from the lungs, that the patient recovers his breath with great difficulty, and commonly with a loud hooping noise. The struggle for life seems to be violent; the little patient clings to anything it can lay hold of, calls for aid, and desires to be held, and during the violent part of the cough seems to be so nearly suffocated, as to turn almost black in the face. In a few moments, however, the paroxysm passes off, and the little sufferer returns to its play, with as much alacrity as ever. In the suddenness of the motion given to the lungs in this cough, there is great resemblance to convulsions; and the disease has been considered convulsive in its character. When it is violent, it will not be mistaken for any other cough: the strangling, the loud hooping, and dreadful extremity of the attack, are altogether peculiar. These attacks produce, as might be expected, great suffusion of the vessels of the face and head; the eyes are bloodshot, and the face tumid and bloated. These symptoms continue, with a gradual increase, for two or three weeks, and sometimes much longer. The lungs take on a copious secretion of ropy mucus, which is largely discharged by coughing.

Hooping cough is always a formidable disease; but, in many instances, becomes greatly aggravated and alarming. Fever supervenes at an early stage; and convulsions are not uncommon. The lungs, in many cases, take on a violent inflammation; and even the brain is sometimes fatally disordered. In this alarming state, the sprightliness of the patient gives way,



congestion of the brain, with great drowsiness follows, and death is a frequent consequence.

#### TREATMENT.

So obstinate and uncontrollable is hooping cough, that many doubt the benefit of remedies in it. I do not dispute that it runs to its own time, and keeps its own course, and there are few diseases in which I offer remedies with less confidence. Still there can be no doubt, that the violent symptoms we have described, will be lessened by proper remedies. The fulness of the blood-vessels, and congestion of the brain, will surely be moderated by proper evacuations; and there can be no doubt of great benefit being derived from proper attention to the state of the stomach. I shall not offer a list of the hundred infallible remedies, which have been published for hooping cough. Not one of them has borne the test of experience; and we are left to treat the disease upon common principles, acknowledging in the outset, that we have no specific remedy for it.

Where the attack is mild, producing symptoms of common cold without hooping, for the first five or six days, it is unnecessary to give any remedy; but where the disease is more violent, and the hooping commences within two or three days of the attack, with more or less fever, an emetic should be given. Take of tartar emetic two grains, nitre two drachms, dissolve in eight ounces of water, and, to a child six years old, give a tea spoonful every fifteen minutes, till it operates as an emetic. This remedy may be repeated from time to time, if the symptoms continue violent; but if the patient, as is very common, throws up almost every time he coughs, demanding food immediately afterwards, no remedy should be given to him, although the symptoms be considerably violent; for these cases have almost invariably favorable recoveries. Where the patient is feeble and young, say two years old or under, it is safest to give ipecac as an emetic; give four grains of ipecac every fifteen minutes till it operates. Where the drowsiness and other symptoms of congestion about the brain happen to take place, bloodletting will be advisable; and if it is found impracticable to accomplish it with a lancet, cups and leeches should be resorted to in its place. Where the complication is with inflammation of the lungs attended with great pain, fever, and tenderness about the chest, calomel should be given, and blisters applied. With these remedies, the first stage of the

disease is to be met ; and this first stage commonly lasts two or three weeks. For the disease is so obstinate and lasts for such a length of time, that in spite of the acuteness of its symptoms, it is rather a chronic, than an acute disorder. Still it has a first and second stage ; and the remedies we have advised are those suited to the first stage, which commonly continues about three weeks.

After this time, where there is any danger, it will begin to manifest itself by great debility and prostration. The lungs become exceedingly loaded with phlegm ; the breathing is frequently heard, without very close listening, producing a rough or rattling sound ; the face becomes pale, the pulse rapid, and the extremities cold. Tonics and stimulants should now be used. The carbonate of iron has been much extolled, and I have used it with great advantage. Take sixty grains of carbonate of iron, (the red precipitated carbonate is best,) add to it eight tea spoonsful of syrup or molasses ; rub together, and give to a child six years old, a tea spoonful three times a day. Laudanum is an important remedy here ; where the cough returns in frequent paroxysms, and the patient is worried and much exhausted, laudanum may be given in doses of ten or fifteen drops, to a child six years old, once or twice in twenty-four hours. Assafoetida has been much used at this stage of the disease. It is one of the remedies which was once published as a specific for the disease. I have but little experience of its use ; but, considering the nervous and convulsive character of hooping cough, and regarding with high respect the authorities on which it has been recommended, I have no hesitation in advising the use of it. A child six years old may take twenty or thirty drops of the tincture, three or four times a day. The carbonate of potash has been very much used in this disease, and I have directed it with considerable advantage. It is peculiarly applicable to the last stages of the disorder ; and may be given in doses of four or five grains to a child six years old, three or four times a day. Fowler's solution of arsenic has also great reputation as a remedy at this stage of the disease. It may be given in doses of from four to six drops, three times a day, to a child six years old. Sulphate of quinine would seem to promise more than any other remedy, in the last stage of hooping cough. It has been strongly recommended by able writers ; but I confess I have been disappointed in it. It is no tonic, and has not appeared to me to arrest the paroxysms of the cough, as it does those of other diseases. Where the patient becomes very much exhausted, and the disease has

continued for a length of time, I recommend a return to a generous diet, and a reasonable use of pure stimulants, brandy to-day in preference to anything else.

---

## PULMONARY HEMORRHAGE—BLEEDING FROM THE LUNGS.

This is a most fearful disease. It does not always signify a serious disease of the lungs; but from whatever cause it arises its tendency is alarming. The blood, in some instances, flows from vessels in the lungs which have been ruptured or broken by disease. On the contrary, when death by suffocation has taken place, and the effusion of blood proportionably large and sudden, the dissector has sometimes sought in vain for ruptured vessels, or broken organs. The blood in these cases seems to transude through the coats of the unbroken vessels, and to produce death in cases where it would be least apprehended.

Hemorrhage from the lungs is a disorder of frequent occurrence, and depends on many remote causes; sometimes it arises from pressure made on the lungs by dropsy, sometimes from aneurism of the heart; not unfrequently it is a vicarious discharge brought on to supply the place of some other, especially the menstrual flux. The danger in these cases will correspond with the character of the remote cause. When it arises from suppressed menstruation, it is not considered dangerous, and sometimes appears for years to return, from month to month, and yet the patient suffers very little deterioration of health.

The free discharge of blood from the mouth, is the particular symptom of this disease; but as blood may be spit up from other sources besides the lungs, it is necessary to guard against mistakes. The blood, when it arises from the lungs, will be raised by coughing, although the cough will, in many instances, be very slight, and the blood burst forth as it were spontaneously. Still, if the physician is present, a very slight degree of attention will enable him to decide positively whether the blood is raised by coughing, flows from any point about the mouth, nostrils, or throat, or is raised from the stomach by vomiting.

## TREATMENT.

The first remedy which would suggest itself, in these cases, is bloodletting. The patient should be placed in an erect position, and blood drawn from the arm in a full stream. It is not easy to specify the amount which should be taken ; it is easy, however, to push the remedy too far, and I have no doubt this is very commonly done. Calmness is particularly necessary in the physician here ; his patient while placed in this position, and the blood flowing, will commonly have a cessation in the discharge from the lungs in a very short time, but he will still raise blood by coughing ; because the whole that is discharged in the lungs, cannot be gotten rid of at once. If some degree of faintness comes on from the discharge, it will be for the better, but the instant it is perceived, the blood should be stopped. If the flow of blood continues, the patient should not, if he can avoid it, change his position ; he should be kept as cool as possible, and observe the strictest silence. When the discharge has so far subsided as to admit of it, he may take his position in bed. Where the discharge of blood continues, though in a degree moderated, the best remedy known to suppress it, is sugar of lead. Five grains of this article dissolved in water, may be given hourly, if necessary, till twenty grains are taken. The patient is now to be allowed quietness, time, and rest. If he is feverish, which is very apt to be the case, a cathartic of Seidlitz powder or Epsom salts, may be given.

These remedies, continued according to the circumstances of the case, will commonly relieve an attack of hemorrhage from the lungs. The remote causes which have given rise to it, will then be the object of the physician's care. They are all treated of in connection with the diseases to which they belong, and nothing further need be said of them here.

---

PULMONARY CONSUMPTION—PHTHISIS PULMONALIS.

Few diseases have been more examined of late than this—none are looked on with the fear it inspires. It is known by a discharge of matter from the lungs by coughing ; but this may happen in other diseases besides consumption. The disease which we are about to consider, is thought to arise exclusively



from scrofula. It admits of no cure ; the best which can be hoped is to put back, and restrain a lingering disease, under which the patient must at last sink. The disorder is by no means confined to the lungs, but is considered general, and in many instances, displays itself in other organs. But its final and fatal attack is made on the lungs and intestinal canal. Tubercular consumption is a hereditary disease, descending from parents to children, and, many times, exterminating whole families. It is a prevailing notion, that it is most apt to occur in the most intellectual and talented classes ; but the observation which it has been in my power to make, has not satisfied me that this is true. The individuals who will be subject to the attack of this disease, are said to manifest this tendency from childhood. This also is a maxim which I should not be able, from my own observation, to confirm. The scrofulous disorders which attack children, and are thought to precede this fatal disease, are, by no means, so common in this climate, as they are represented to be in higher latitudes. Nor have I seen the glandular swellings, and protracted suppurating diseases, which sometimes even here occur in children, followed, with any uniformity, by the attack of consumption. Strong suspicion of danger will be felt in cases where individuals have lost many relatives by this disease ; but unless the suspicion arises in this way, persons who are doomed to suffer by consumption, are often happily ignorant of their doom.

Tubercles in the lungs exist for a long time before they result in consumption. Many persons who die from other causes, are found to have them in great numbers, but little developed. They are said, in the first instance, to be an unorganized, cheese-like matter, deposited in the substance of the lungs. This commonly happens in small points, not larger than small shot. They are commonly situated in the upper, or back part of the lungs, below the collar bone, and backward from that point. These small tubercles become softened and enlarged by time, till at last they produce suppuration, are detached, and coughed up. There is nothing in the nature of things to hinder the healing up of the places from which these tubercles are discharged ; but there are commonly others near the same place, progressing to the same result. The size of these tubercles when matured, varies very much ; they sometimes seem to fill almost the whole of the upper lobe of the lungs ; but, in other cases, they are exceedingly small, sometimes not larger than a pea.

The length of time which these tubercles may remain dor-

mant and inactive, has not been ascertained. There is reason to believe that in some persons who have died at mature age, and been found on examination to have latent tubercles, they have existed for a great length of time. When the tubercle bursts, and its contents are discharged, the cavity left is called a vomica. These cavities do not close, but are often found with a lining membrane from which the discharge of pus has been kept up. In a few cases, they are found to have closed and healed, and thus exhibit cases of consumption cured; but we are not authorised to say that we know anything of the agency of remedies in the happening of these cures. It would be useless to pursue the subject of the various changes which have been found to have taken place in the lungs, in the thousands of examinations which have of late been made, after death from consumption.

The lungs manifest the first symptoms of consumption; but they are by no means the exclusive objects of its attack. The intestinal canal soon follows in the same course of disease; and here indeed it is more rapid, and speedily fatal. In some instances, the intestines ulcerate, and holes are formed through which their contents are discharged into the abdomen. But patients seldom live to experience this result; they are commonly carried off by a wasting diarrhœa which comes in at the close of the disease, and is fatal before ulceration has taken place.

#### SYMPTOMS.

Cough and difficulty of breathing are the first symptoms usually noticed in consumption. There is at first scarcely any discharge from the lungs; but in some cases blood is coughed up at a very early stage. Hectic fever soon follows these symptoms; and night sweats begin that process of wasting, so characteristic of this disease. Hoarseness follows, with more or less feebleness of the voice; and after these symptoms have continued for a length of time, a fatal diarrhœa supervenes.

Great pains have been taken to discriminate consumption from other diseases of the lungs; but after all, there will remain a doubt and uncertainty of the nature of the case, till the inroads it has made have brought the patient to the point of death. I am not very certain that it is desirable to reduce this knowledge of the nature of the disease, to more certainty than we now have in regard to it. To me it would be exceedingly painful to say to a patient, that he must inevitably die of his

complaint ; and there are very few cases in which it would be desirable that such a communication should be made, to one who may yet live for months or years. Yet to the physician, it is desirable to be able to discriminate this disease from others, and great pains have been taken to accomplish it. The matter discharged by cough from tubercular ulcers, has been described with great particularity. It has been said to be thrown off in "*globular, flocculent masses, which look like little portions of wool.*" The matter thus discharged is said to be particularly attractive to flies ; and this fact I have very often noticed. These circumstances are obviously subject to considerable variation in different cases, and the mist of uncertainty which will hang around the mind of the physician, becomes in that of the patient a thick cloud, and his hopes predominate over every other feeling to the last. The fever has something of the form of paroxysms ; once a day there is a degree of chilliness, which is followed by a fever, terminating in profuse and wasting perspiration. The sweating, in these cases, is excessive, and out of all proportion with the fever it succeeds. It is a leading symptom during the whole course of the disease, and seems to go on, increasing almost to the last. The pulse, at first, is a great deal more frequent than might be expected ; and the disease is attended with extreme debility, even from the first. Diarrhœa is sometimes an early symptom, in consumption. It is perhaps the most certain sign of a speedy and fatal termination. Great pain cannot be considered a characteristic of the disease ; but, in the intestines, towards the close of the disease, the pain is sometimes exceedingly distressing. Towards the close of the disease, symptoms of dropsy appear ; the feet become swollen ; but this is fortunately not to last a great while, for the patient, reduced to a state of existence too low to desire its continuance, is relieved by death from his sufferings.

It is doubtful, whether under any circumstances consumption is contagious ; and it is certain that many wives nurse to the last, their consumptive husbands, without contracting the disease. This fact is so general, that it takes away every excuse from those who would falter in their attention to near relations, in so dreadful an extremity. Still, I am bound to say, that prudence requires a guarded intercourse with the sick and dying in consumption ; and I will add, that I fear I have seen cases, in which the disease has been contracted by sleeping on the same bed with one in the last stage of consumption.

## TREATMENT.

Doctor Rush, who simplified every subject of which he treated, insisted on it, that the principal, if not the sole predisposing cause of consumption, was debility. Subsequent observation has not borne him out, to the entire extent of his theory ; but it is conceded on all hands, that persons who have a predisposition to this disease, become, in an unaccountable way, exceedingly debilitated, about the time of its attack. The maxims of this great physician, although not entirely borne out, point still to the most valuable of all our means of treating consumptive disorders. The first principle then, is, to avoid all causes of debility, and to maintain, by every possible means, the activity, power, and endurance of the body. Persons who are supposed to have a tendency to this disease, should make the preservation of a high degree of health a first consideration. This they will be enabled to do, in a great degree, by their own observation and experience. But the testimony in favor of free exercise in the open air, is too strong to be resisted. There seems to be a special aversion in consumptive persons, to muscular effort ; and they should be put into some employment that will demand from them, a daily and very considerable degree of exercise. Doctor Rush's great remedy, or means of preventing this fatal debility, was exercise on horse back. He pleased himself with stating in his lectures, the ease of a man who, by his advice, took a contract to carry a country mail on horse-back, over a route exceedingly rough and fatiguing. His symptoms of consumption speedily disappeared ; and when he felt himself well enough, he retired from his disagreeable employment ; but the reappearance of his symptoms of consumption drove him again to the road, where he spent many years in health and vigor. But a remedy so rude and trying, cannot be recommended to all ; and we are to substitute the best means we can, in their place. Every act of life is to be taken in reference to this important subject. Patients who have a hereditary taint, or who have seen their kindred or ancestors dropping off by this disease, should beware in contracting marriages, of allying themselves to those who are placed under the same circumstances. All may pursue a life of strict regularity, all may avoid excess in eating and drinking, all may follow habits of purity and cleanliness, and all may avoid entering into anything which would exhaust and debilitate them in a very great degree. It has been observed that study was apt to increase the symp-



toms of consumption ; the rule should be to employ both body and mind, in moderation. I think persons of intellectual endowments whose taste is chiefly gratified by the things of letters and science, would not be sufficiently compensated by refusing themselves the gratification of study.

A change of residence to a warm climate, has been highly recommended ; and families who have reason to think themselves in particular danger, should remove without waiting to be driven by the attack of the disease. For the disease, when formed, respects no climate. Tubercles will mature, soften, and suppurate in any part of the world. It is not, therefore, the degree of warmth to which a person may be exposed ; but the irregularities in conduct, and the rude changes of the seasons, which are so often the exciting cause of this disease. The best climate is that which is most uniform, and the least subject to the prevalence of common colds. In this regard, many people of the United States, have very beneficially taken up a temporary residence in Cuba, or some other of the West India Islands. In Europe, the Island of Madeira is very much resorted to for the same purpose. But it is by no means in the power of every one to procure the benefits of a change of climate. They must content themselves with adopting the best course of living and exercise within their reach. And it has been thought, that great benefit has been derived from a scrupulous regard to the adaptation of clothing to the warmth of the season.

A great deal has been said in reference to regimen, in these cases—some insisting on the most nutritious and supporting, while others have run into the opposite extreme. My own opinion is in favor of a decidedly nutritious and supporting diet, while the patient is enabled to take a great deal of exercise. The time to lessen or forbid food will manifest itself by the presence of fever. Beyond this, the discretion of the patient and his attendant must govern him.

But we are not allowed to hope that these remedies of prevention, are to serve the purpose of arresting the disease in all cases. It will make its slow, desceptive, and fatal inroad ; yet the symptoms it produces demand from us the use of certain remedies ; and experience warrants us in saying, that they are, in many cases, beneficial. It will not be going too far to say, that, in some instances, they have proved effectual, and resulted in a cure. For patients who have died of other diseases, have, on examinations after death, shown evident signs of consumptive ulcers which had been cured. The maxim, it is

true, is, that consumption is incurable ; but this maxim is founded on the common belief, that the person who recovers from any disorder of the lungs, has not had this disease. Our efforts, therefore, are not entirely without hope ; and it is our duty, especially in the onset of the disorder, to use the proper remedies with great diligence and perseverance. These remedies should in all instances be moderate in their force, and so administered as to produce effects the least debilitating. The first remedy to be mentioned is bloodletting ; the remedy almost universally beneficial in that degree of inflammation which produces suppuration. It should not be resorted to till the fever is manifest, and the pulse rapid, and, in some degree, strong ; but night sweats do not always forbid its use ; for these sweats seem to be an especial ingredient in hectic fever. Bloodletting, to be useful, should be practiced during the most excited stage of the fever, commonly about mid-day ; and where the patient is feeble, half a pint, or even less, will be sufficient. This remedy is far from being the debilitating agent that might be expected, in these cases. If it arrests, or greatly lessens the night sweats, it has done more benefit than injury ; it has increased rather than lessened the patient's strength. It will not be often in our power to repeat the operation many times profitably ; for if this remedy, or others used at the time, are not very beneficial, the patient will soon pass on to a state of debility, which will altogether forbid the use of the lancet. Emetics are also useful here ; and of these, decidedly the best is tartar emetic. It may be given in doses of a grain, every half hour, till it proves emetic : and such is the course recommended in the first stage of the disease when the fever runs high. At a later stage, I prefer the use of the antimonial mixture, in broken doses. This remedy should be given during the highest part of the fever, commonly from twelve o'clock till evening ; the mixture should be given in doses which will not produce vomiting, and at intervals of two or three hours. If the remedy in this way acts as a cathartic, twenty or thirty drops of laudanum should be immediately given ; and, if this tendency to increased action of the bowels continues, the remedy is to be altogether abandoned.

It is seldom that this disease requires the use of cathartic medicines ; if, however, any considerable degree of costiveness prevails, pills of rhubarb may be given to produce a very moderate action. I have given, in these cases, with some satisfaction, the following pill : take of rhubarb one drachm, ipecac thirty grains, mix and divide into twenty-four pills. Of

these pills, one may be given as often as is found necessary. Opium is a palliative, indispensable to us in the treatment of this disease. It may be used, from time to time, when great prostration and difficulty of breathing evince the great necessity of support. It is equally demanded for the relief of the great, and sometimes intolerable pain felt in the intestines. As to the preparations of this remedy, the Dover's powder has been most approved; it may be given once or twice in the twenty-four hours, in doses of ten or fifteen grains; but as the disease progresses, the physician will find himself almost compelled to increase the quantity of opium. Laudanum should now be substituted, and the dose increased according to the necessity of the case. I have found myself almost compelled to increase the quantity from thirty to forty drops, at length to a tea spoonful, and finally to twice that amount; for the sufferings of the patient, without its use, were too great to be borne.

The diarrhœa, which almost always comes on sooner or later, requires special attention. It is not expected to cease by the use of remedies. Opium is perhaps the best palliative in our possession, and is to be given according to circumstances. The preparation which I have found best, is a combination of opium or laudanum with prepared chalk. Take of prepared chalk two drachms, drop on it thirty drops of laudanum, rub together, and divide into six powders. One of these powders may be given two or three times a day; and if the stage has arrived when a greater amount of laudanum is necessary than these powders contain, it may be given separately. Many remedies have been advised for this diarrhœa. The astringent vegetables are to be preferred. Take of gum kino a drachm, powder it finely, and divide it into six powders—give one three times a day. It would be easy to add indefinitely to this list of remedies; but we should gain but little by trying the whole of them. Those I have advised are amongst the best.

The proverbial sanguine temperament of consumptive patients, operates beneficially in preserving their energies to the last, and carrying out every suggestion which may benefit or relieve them. They are not to be abandoned in despair, but allowed to pursue such schemes of exercise as may promise them benefit. They are to use, in the last stages of the disease, such tonic medicines as tend most to support the system. The muriated tincture of iron is perhaps the best of these—and from ten to fifteen drops may be given two or three times a day. Pure stimulants have also a proper place here, and we need hardly add that brandy is the best of these. A tea spoon-

ful or two, made into toddy or drunk with water, at the patient's pleasure. And when we are brought to the last extremity, we are not to forget that opium is still our surest and best reliance, for the degree of relief which it is in our power to offer. Very little is, in my opinion, gained by changing opium for Prussic acid, hemlock, henbane or other powerful narcotics. I should not think of resorting to them.

---

## FOREIGN BODIES IN THE WIND-PIPE OR LUNGS.

To those who understand the anatomy of the throat and wind-pipe, it is most astonishing that substances taken into the mouth, do not oftener find their way into the wind pipe, or in common parlance, go the wrong way. Nature has provided against this accident by a contrivance peculiarly simple, yet sometimes, from inattention or accident, it is insufficient. Many substances are drawn into the wind-pipe, and produce exceedingly injurious or fatal effects. This commonly happens from inadvertance—the person drawing breath suddenly, when the substance in the mouth is in a position to be acted on, and thus drawn into the wind-pipe. Diseases sometimes place the parts in a situation to perform their office badly, and thus increase the number of these accidents.

The substances most frequently drawn into the lungs, are of a character so light, as to be easily moved by a current of air. A head of barley or timothy, or leaves of cedar, and other light articles, I have known to find their way into the air passages. Heavier bodies sometimes fall in, by passing into the throat, when no effort is made to swallow, and thus dropping into the windpipe. This most frequently occurs with the seeds of fruits. In this country, water-melon seeds, owing to their hardness, and the mucilage which gives to them the greatest possible smoothness and liability to pass, are the most common; but I have known other bodies, such as grains of Indian corn, shot, a small marble, and even small coins, to find their way through the same passage.

The consequences of these accidents correspond with the character of the article, which thus finds its way into the wrong passage at the throat. A child four years old, lying on its back with a marble in its mouth, allowed it to pass suddenly down into the wind-pipe, and was strangled and destroyed in a moment. Bits of meat half chewed, have been known to



produce an equally fatal result. But the body thus swallowed, is seldom of a figure and dimension to close the wind-pipe so perfectly, as not to allow of breathing; the irritation of the body is however productive of great distress. Violent cough, wheezing, and sometimes acute inflammation follow; but in other cases, the irritation is surprisingly small. I have known a water-melon seed to remain in the lungs of an elderly lady for more than a year, producing considerable cough and irritation, but no considerable disease, till at last in a violent fit of coughing, it was thrown up, very little changed. Grains of Indian corn have produced a greater degree of irritation; but even these are sometimes borne for a great length of time, without producing any alarming symptoms. Where the article thus drawn in is rough, the irritation it causes is greater, and cases of consumption have been attributed to such accidents. I visited a young lady within a few days of death from consumption, who coughed up, within a week of her death, a little sprig of cedar which had produced so little effect, when it was first drawn into the wind-pipe, that she had not disclosed the circumstance of having drawn it in.

#### TREATMENT.

When the accident has but just occurred, the body may be discharged by a sudden and violent forcing out of the breath; this should be attempted by the most violent voluntary efforts which can be made. If the body is heavy, great hope may be entertained by placing the windpipe with its upper portion downwards; if it is a child, let it be held up by the feet. In some instances the body has but partially made its way into the wind-pipe and may be reached by thrusting the finger down the throat and withdrawing it. I have, in one instance, thus rescued a child from great peril in a moment. It had attempted to swallow a fibrous piece of beef, which I easily felt and removed with my finger. If the symptoms produced are mild, time should be taken, and various efforts to cause the expulsion of the body by change of position and voluntary efforts, should be made. Nor should we be too precipitate in ordering a surgical operation for their removal.

But we are not always allowed to choose our measures in these alarming cases; suffocation is sometimes so great, and death apparently so liable to happen in a very short time, that the operation of perforating the wind-pipe for the extraction of the foreign body, becomes indispensable. This operation may

sometimes be so absolutely necessary, that time cannot be taken to obtain the service of a skilful surgeon; it must be attempted by such as can be procured to undertake it. The operation is of itself exceedingly simple, and would be a matter of no difficulty, but for the sudden motion of the part produced by breathing and coughing. With the finger of the left hand pressed down on the wind-pipe immediately below its most prominent and hard point; there will be felt a small pit or indentation, which should be aimed for by the cutting instrument. The incision need not be over an inch in length, and it should be carried on till the wind-pipe is opened. No pretender to the practice of medicine should refuse to perform this operation, in a case of pressing necessity.

The opening of the wind-pipe is not always attended with any relief, the body sought for being often far below the opening made. The orifice should be made sufficiently large to admit of the escape of the body, should it be brought up; and various contrivances have been made to prop, or hook open the new orifice. This being done, every effort must be made to cause the foreign body to escape. Try first a change of position—if it be a child hold it up by the feet—examine with a probe above and below, and hope that a timely and violent cough, will bring forth the thing sought for. In this way, I saw a water-melon seed escape from the wind-pipe of an interesting child, on whom my friend Doctor B. A. White performed this operation. No exact rule can be laid down, for the measures which shall be adopted where the operation is performed and the body found to have passed too far into the lungs, to admit of its being reached. The orifice made by the operation should be kept open, in the hope that the efforts of nature, or the voluntary efforts of the patient, may in a favorable moment accomplish the object. A surgeon had performed this operation for the removal of a grain of Indian corn, and failing in every effort to bring it forth, left his patient with the orifice open, that the efforts of nature might have no obstruction. Soon after he left his patient, a strolling quack happened to call at the house. Hearing what had happened, he persuaded the child to arise, and to place itself on its hands and feet, and canter like a horse a few paces, and leap over something, so as to alight on his hands, and make a violent effort to shout at the same time. At the first effort, the grain of corn fell on the floor!!

## INFLAMMATION OF THE LUNGS—PNEUMONIA.

## PLEURISY—PLEURITIS.

Under these titles, I have concluded to treat of diseases which have been divided by practical writers. The inflammation of the substance of the lungs, which is the disease known under the title Pneumonia, is perhaps more commonly met with than that inflammation confined to the external surface of the lungs, and known as pleurisy. The distinction between these two diseases, even under the stethoscopic investigations of the day, is, to say the least of it, difficult. Nor do we derive, in a practical point of view, the benefit from these investigations which they might at first appear to promise. The treatment of the disease in either form, is about the same; and it would be vain to attempt to make the distinctions between them, manifest to the inexperienced practitioner. I have left for another chapter the inflammations met with in the trachea or wind-pipe, and a portion of its ramifications in the lungs, because this disease, when extending to the throat, and frequently to the adjoining organs, appears in a form so different, as to require, many times, a different treatment. This part of the organs of respiration is, moreover, subject to the attacks of many disorders, in which the great volume of the lungs and their covering, appear very little to participate.

Inflammation of the lungs is a disease to which many persons are peculiarly liable, and in whom it is excited by any irregularity, especially exposure to cold. But the disease is frequently produced by an unseen and unknown cause, to which authors have found it necessary to apply a particular term. It is often epidemic. When the disease appears from this cause, the attacks of it have a peculiar character, one epidemic differing as widely, in the character of the fever which attends it, from another, as two diseases can well do. In one epidemic, we meet with a disease pre-eminently inflammatory, tending to the formation of matter in the lungs, either in its minute vessels or in larger abscesses. This tendency is not always confined to the consumptive, in whom the suppuration of vomica, or small abscesses frequently takes place. I have met with several instances of the formation of large abscesses from this cause, from which the patient has had a perfect recovery, without any manifestation of consumptive symptoms during the course of a long life. But in other epidemics, and by far the most formidable I have met with, the disease presents not the

slightest tendency to the formation of pus, not the slightest dryness of the lungs and tenacious mucus, so characteristic of the inflammatory disease. On the contrary, the lungs in these cases are overloaded with abundant secretions—many times in such quantity as to appear of themselves, the greatest cause of exhaustion. These distinctions in pneumonia are exceedingly important, because success in their treatment depends upon measures totally different, in one case from the other.

#### DESCRIPTION.

Our attention shall first be given to the highly inflammatory disease. In this, the attack is sometimes preceded by languor, heaviness, and slight pains in the back and head, similar to those which appear in the onset of most febrile diseases. These symptoms, however, seldom attract much notice. The patient yet continues to attend to his ordinary pursuits. The time at which the real attack takes place is manifest enough. A severe chill—sometimes the highest degree of chill—ushers in the disease. On examination, the patient, though shaken with the disease and complaining of great cold, will be found with extremities a little cold, the nose and face pale, but over the whole surface of the body a considerable degree of heat will already be manifest. This state of things lasts sometimes for many hours—shivering continuing long after the fever becomes general. The fever becomes now manifest, the face flushed and tumid, the eyes swollen and watery, the heat of the surface considerable, and the pulse full and bounding. These symptoms continue without abatement, for one day or more. Towards morning, perhaps the second day, some remission of fever takes place, but without perspiration, or other symptoms of the termination of the disease. A slight abatement only, will be noticed. The pulse undergoes a change which can be noticed by the experienced hand, but may perhaps be difficult to describe. Its volume is decidedly less, its beat quick and sharp, a special thrill as if there were a roughness to it, imparted to the fingers—a state of the pulse frequently met with, whenever there is an important organ of the body affected with inflammation, which tends to suppuration. Great pain in the side, sometimes in both sides at once, in the region of the lungs, takes place from the first. This is a constant and troublesome symptom. It is true the lungs are sometimes inflamed, and suffer great damage without manifesting their disease by much pain; but I think this never occurs in the disease we are



considering. If the lungs have an inflammation of this kind, it is during the presence of some other disease; and when in this latent and unnoticed way, the dissector after death discovers that the lungs have been suffering a fatal lesion. Other symptoms of serious disease present themselves. Delirium is not an unfrequent attendant, even in the first stage of pneumonia. This symptom, *delirium*, when it occurs in the first stage of the disease, may be regarded as an evidence of violence, but not of peculiar danger. Far different is it in the closing scene; for as the disease approaches its termination, no symptom is more to be dreaded than delirium. Cough is a troublesome symptom of this disease, and is productive of much pain and annoyance to the patient. The character of this symptom depends upon the seat of the disease, and the present state of the secreted matter of the lungs, which is to be thrown off by coughing. Many times the sputor is so tenacious, that it is with great difficulty raised from the lungs, and even when it has reached the fauces, it is sometimes so glutinous, as to be with the greatest difficulty dislodged. When the secretions are more abundant, or when their character is so changed as to have freed them from this tenacious quality, the cough is only occasional, and the matter is thrown off without difficulty.

The blood drawn in this disease has been long characterized by the term *buffy*, from its having a yellow pellicle over the top, when it has been allowed to stand and get cold. A cup-like formation of the coagulum is also observed. After a day, or perhaps less, the coagulum will be found to have withdrawn from the edges of the vessel, and its upper surface drawn into the form of a saucer. This state of the blood is, I think, uniformly present in cases tending to the formation of matter, either in abscesses, or in the minute vessel of the lungs. But on the onset of the disease—within twelve hours of its attack, even in the severest cases, the blood which flows, having a bright red color, will cool suddenly into a strong, firm coagulum, and present no appearance of buff on its surface. This appearance of the blood should not deceive us. It is an evidence even of a more intense degree of inflammation, than the buffy coat we have above spoken of.

The expectoration is, at first, a transparent mucus. Soon, however, perhaps even the first day, it changes; sometimes it is greenish, at other times of a rusty brown color, and this color is thought to be the most distinctive sign of inflammation of the substance of the lungs, properly termed pneumonia. As the disease progresses, if the termination is favorable, this deep

color fades away, and at last a yellowish matter, and finally a light colored mucus is alone discharged. These discharges from the lungs, be it remembered, are peculiar to the high inflammatory disease, and do not belong to that which we shall presently consider under the term typhoid. During the progress of the disease, the patient is unable to lie on the side most affected, he is commonly confined to his back. He will usually choose the position in which he can lie easiest, and thus lie breathing with great pain. The respirations are increased or hurried; and, in proportion to their shortness and suddenness, the danger has been thought to be great. To this, however, I have seen many exceptions. Such are the symptoms of pneumonia during the first four or five days.

After the fourth day, if the disease has not been arrested by timely and active treatment, the violence of the fever may be expected to abate. This abatement commonly happens at night, or early in the morning. Some degree of perspiration attends it. The expectoration becomes easier and the breathing less hurried; but in cases in which the disease is not giving way, all the symptoms at this stage will be rather aggravated. The expectoration will be still more difficult to accomplish, the breathing shorter, the pain not lessened, and there will be every appearance of great prostration of strength. The tongue, which in the first days of this complaint, is generally moist, rather enlarged, and covered with a light white fur, becomes dry, compressed, and is moved with difficulty. These symptoms, as the prospect of recovery is greater or less, will be more or less considerable as the disease progresses. No remarkable change in them, except in degree, need be expected till the disease reaches its termination.

The time at which the disease will terminate is uncertain. Practical writers do not lead us to expect a recovery under twelve days. My own experience will give a shorter time by three or four days. But many cases are protracted even to twenty, or twenty-four days, in spite of any thing we are able to do. Some symptoms are noticed as peculiarly apt to occur at the period of the termination of the disease. A gentle, long continued perspiration, is perhaps the most favorable symptom which can occur. Some disorder of the bowels, a moderate degree of diarrhoea, is also considered a favorable symptom. But this is not to be relied on; for, in many instances, it is the reverse of a favorable indication. The urine, which, during the progress of the disease, has been pale, becomes highly colored, depositing a copious sediment of a reddish color, which

has been compared to brick dust. This symptom, I consider, one of the most favorable. The patient becomes sensible of his improvement. He is greatly relieved of pain, his breathing becomes more comfortable, is less frequent, and his pulse becomes slower. Though there are cases in which the pulse continues considerably excited, and the breathing hurried to perhaps nearly twice as many times as in health, and yet the patient will recover—these symptoms giving way very slowly, and after a length of time.

Relapses are considered very common in this disease: and here too I have to remark, that relapses are not so common in epidemic pneumonia, as in cases which occur from the peculiar liability of individuals to this inflammation. Those, for instance, who have had the disease several times, should be above all things guarded against exposing themselves to the causes of a relapse. Nor is there in relapses, a very great difference from the original attack. The same symptoms will present themselves, and the same remedies, graduated in proportion to the strength of the patient, will be required.

#### CAUSES.

I have said that persons who have had pneumonia, sometimes become particularly liable to its attacks. This is so much so, that, in some cases, individuals have been known to have the disease once or twice a year, for twenty years together. Such persons will be liable to an attack, whenever an influenza or common catarrh shall be epidemic. Other persons will be attacked with these diseases, and the individual alluded to, from the same cause will have an attack of pneumonia. The exciting causes, which are sufficiently powerful to produce the disease in those not pre-disposed to it, will, in the pre-disposed, most certainly bring it on. The most common of the exciting causes of pneumonia is cold—exposure to cold air or to rain. The danger is greater when the exposure is longest; the change from heat to cold for a very short time seems very little capable of producing this disease. The Russian experiences no injury from leaving his heated chamber, and plunging into the coldest water, or rolling in the snow, provided he returns in a very short time to his warm apartment. During the prevalence of the epidemic cause, which, as I have before stated, is unknown to us, a slight exposure seems, many times, to produce the disease, even in those not usually subject to it. This should be remembered by all persons, and special care

should be taken when this disease is prevalent, that no exposure to cold is continued for too great a length of time. Any cause affecting the lungs particularly, in a manner to produce pain, may also produce this disease. Breathing an impure atmosphere, filled with dust, especially of a deleterious material; speaking with great effort of the voice; inhaling poisonous vapors; wounds, blows; certain poisons taken internally; the suppression of habitual discharges; translation of disease from one organ to another, or any cause which might excite inflammation, may affect this organ as well as another.

The season of the year at which this disease appears, would seem to rob it in some degree of its title to be considered a disease arising from an epidemic or unknown cause. The cases which occur in winter, especially late in winter and early in the spring, are far more numerous than those which occur at other seasons of the year. It never has appeared as an epidemic, so far as I know, in the summer months; nor has influenza in this country. There is something therefore in the sensible qualities of the air, that pre-disposes to the occurrence of this disease. No investigation which has been made, has enabled us to point out the time at which the disorder may be expected. I have passed whole years in a full practice, without witnessing a single case of pneumonia, except it might be in individuals, who from peculiar liability to it, took it from some occasional cause. Yet these years have presented nothing peculiar from which we might have inferred our escape from this disease.

Pneumonia frequently appears during the progress of other diseases. It has always been considered a source of dangerous complication. This happens most frequently from that inflammation of the trachea which has been termed bronchitis; and of this we shall treat in another place; but it frequently occurs in whooping-cough, influenza, small-pox, erysipelas, and sometimes after the performance of important surgical operations. All these complications suggest no alteration in the treatment of the disease, which is to be managed without much regard to these circumstances. No specific offers its kindly aid here. We are compelled to meet these difficulties as we find them; and our patients are obliged to endure the accumulated afflictions of the case.

The danger which attends this disease, is always considerable; and is to be judged of by the mildness or force of the symptoms we have mentioned. Individuals who are peculiarly subject to it, have proved their capacity to rise from its infliction;



and, in such cases, the judgement to be formed is more favorable, than the symptoms might seem to justify. The cases which arise from local injury, are far less dangerous under a given state of symptoms than others; for the obvious reason that they arise from a mere inflammation, without any remote cause lingering in the constitution. Experience will soon give us a clue to the danger of the case before us. We shall soon find that the epidemic in which the diseases may occur, has a character of its own, and certain symptoms will be to us an evident signal of danger or safety.

## TREATMENT.

From the earliest times, bloodletting has been considered the great remedy of pneumonia. A few heretics, as they have been called, have denied its beneficial effect. Of late, we have this subject reduced to statistics according to the spirit of the age; and we have it set down in hospital reports, at what period of the disease bloodletting was resorted to, and how long the disease continued thereafter. This curious exhibition, as far as it has been tested, seems to shew that bloodletting shortens and renders less dangerous the disease, but we are still left in almost as much doubt as ever, as to the best manner and mode of using this remedy. One will advise you to open a vein in both arms at once, place your patient in an erect position, and let the blood flow till he faints. Another will advise that this harsh remedy shall be modified: that the patient shall be placed on his bed, and lose not more than forty ounces of blood. This operation they advise to be repeated daily, perhaps for several days. My opinion is, that the whole of this is sheer extravagance, and wholly unjustifiable in any case; at least in this country. It should be recollected, that in the use of the lancet, it is not our sole reliance. I regard it as a great and valuable remedy, but never expect to so reduce the disease by its use, as to require the administration of no other remedy. Much has been said in regard to the fainting which is a frequent consequence of bloodletting. My own opinion is, that this is the least reliable of all circumstances, as a guide to the quantity of blood which should be drawn. Some persons faint as soon as the flow of blood is experienced from the arm; while others would perhaps bear the loss of blood to the point of extreme danger, before this state would come on. My own rule is, to place my patient in a horizontal position, and to draw from the arm, by a medium orifice, the quantity of blood I

judge to be necessary—always making up my mind as to this quantity before the vein is opened. If the operation is performed on the first day of disease, and the patient be of full size, and of previous good health, and the attack at the same time violent, I do not hesitate to draw from eighteen to twenty-four ounces of blood. But this quantity is to be reduced wherever, the circumstances of the case, the debility, or small size of the patient, or any other obvious reason renders it necessary, nor do I repeat this remedy as often as it will be found recommended in books. I resort to it a second time, on the second or third day, if I find the symptoms of the disease not mitigated. After this, if the disease becomes protracted under symptoms of peculiar inflammation, tending to suppuration such as I have described, I resort to small and repeated bleedings, regardless of the number of times the operation has been performed. I have seldom resorted to cups, or leeches, believing, as I do that there is no peculiar preference to the extraction of blood in this way, and knowing that in taking it from the arm I have a perfect control of my remedy. I would add, that when I have known the remedy used in a manner differing from my own, I have had good reason to believe that the mode I pursue is the most successful.

The next great remedy for pneumonia, is tartar emetic. This has been used in a manner still more extravagant than bloodletting. With the experience I have had of the use of this remedy, it is really hard to credit the statement of authors as to the quantity of tartar emetic they administer in cases of pneumonia. Grain doses, hourly, for thirty hours, appear to me enough to seal the doom of any man. Yet this is the boasted remedy of some great names. None of them, however, can have a higher opinion of its judicious use than I have. The mode in which I use tartar emetic is founded on the greatest caution. The dangers which attend it when the dose has been too great, or the patient too weak to endure it, have been so appalling as to teach me caution. I make no attempt to press it on patients in a state of constant vomiting—so that their stomachs may at last learn as they say to tolerate it; I should consider that an exceedingly hazardous experiment.

Tartar emetic is to be used in the whole course of inflammatory pneumonia; or at least till suppuration, or the final resolution of the case has happened. In the first and second day, it should be prepared in the ordinary form of antimonial mixture, say two grains of tartar emetic and two drachms of nitre, in a half a pint of water. Of this mixture, give a table

spoonful hourly. If it produces no nausea or vomiting on the administration of the second or third dose, shorten the term to half an hour; but continue the remedy, as long as it can be endured without exciting vomiting. If vomiting occurs, it is all well; but after it has occurred, the remedy should be suspended for a time. This remedy will scarcely fail by this time to have reduced the pulse in its force, to have rendered pale the countenance which was before flushed, and perhaps to have bedewed the whole body with a mild and gentle perspiration. Such are the benign effects always to be derived from its operation. Watchfulness of the changes which may now happen, is necessary. If the pulse again rises, and the face becomes flushed, and pain and difficulty of breathing grow worse, return again to the antimonial mixture. It is to be continued under these circumstances throughout the whole course of the disease, and to be lessened in quantity as the symptoms moderate. When the remedy so used produces a cathartic operation, it becomes necessary to suspend it. This is an unpleasant effect of this remedy, and, without due care, may render it unmanageable or dangerous. Opium, in some form, should now be combined with it. Thirty or forty drops of laudanum, in a single dose, or ten drops in each dose of the mixture, may be used. By this means, having care not to press the anodyne too far, the antimony may be continued in almost every case to the desired extent. I consider it, when used in this way, a remedy far more efficacious in the removal of pneumonia than bloodletting.

Mercury, in the form of calomel or blue pill, is an important remedy in this disease. It should be used after the second or third day, not to produce salivation, but in such a manner as to guard the bowels from the wasting, watery discharges, which antimonials and cathartics too frequently bring on: and here let me remark, that in this disease all remedies which bring on fluid and watery discharges in quantity, do harm. I have seen the greatest mischief result even from the use of Seidlitz powders. The effect of such remedies is to dry the lungs, to lessen the fluids of the body, and to render the expectoration more difficult; and I have so often seen this result, that I am unable to doubt the truth of my observation. Calomel is, as a remedy, the very reverse of these wasting cathartics. It, on the contrary, promotes the discharge of matter which has in it a degree of solidity; and although the discharges produced by it may be numerous, patients seldom seem to be prostrated or weakened by it. At the same time, it seems to exert

a wonderful influence over the secretions of the lungs—changing them from the dry, rough, adhesive matter which we have described, to that which is easily expelled by coughing, and attended with the greatest relief. The remedy comes in with the greatest advantage after three or four days, when by the use of active remedies the pulse is considerably reduced, and the patient placed in a state to admit of the administration of opium, in some form, at the same time. It is customary to combine calomel and morphia, or opium. I think myself, it is a matter of no consequence to combine them. I administer calomel at the rate of ten grains a day, in pills of two grains each, and make such occasional use of opium or laudanum, as the case may seem to require. The quantity of calomel to be administered cannot be perfectly defined. Some will think the quantity I have mentioned too minute. I myself sometimes give twice as much; but I have never been able to satisfy myself that the larger quantity was more effective for its particular ends, than the smaller. This is one of the peculiar qualities of calomel. It is seldom desirable to continue the use of it till salivation is brought on; I think I would treat a hundred cases in succession, without causing salivation in one of them. Ten, or even twenty grains of calomel given in one day, will very seldom produce salivation; the same quantity given in five or six days would almost certainly induce it. I therefore use calomel, one or two days, in an efficient manner, and then I make it a rule to suspend it for a time. I have never doubted that it was as successful, used in this way, as for the production of salivation.

I have said nothing of this disease when occurring in infants. It is true, they are very subject to it—more, I have no doubt, than grown persons; and it requires the best judgement, and most careful examination of the physician, to decide when this disease is present. The symptoms are the same with those in grown persons; the cough and fever are manifest, and the tenderness which will be found on attempting to raise or move the child, will probably point out with sufficient plainness, the disorder in hand. These cases, more than any other, require the use of calomel. It should be used in larger doses in proportion to the age, and longer protracted, for here the danger of salivation is far less, but in all other respects the treatment of this disease when it occurs in children, even of the earliest infancy, is just the same as when it occurs in grown persons.

Opium is an exceedingly important remedy in this disease. It should be administered even on the first day, when the pain



or difficulty of breathing is intense. Let the patient be freely bled, and fifty or sixty drops of laudanum administered at the same time. The antimonial remedies which should immediately follow, will lessen the force of its action with great certainty and success. This remedy, *opium*, is to be held in hand, and administered as the occasion may require, during the whole progress of the disease. Let it be remembered that it is no specific, it removes no inflammation; it brings on no crisis, but is to be used for the removal of the distressing symptoms which may be present. As a general rule, I prefer it in divided doses, once or twice in twenty-four hours, say sixty drops of laudanum to a grown person. I should not hesitate to double the quantity when the symptoms were urgent. Under this view of the subject, with opium at the bedside, not administered at the rising stage of fever, but in its decline, or after the use of antimonials, or other active remedies, it will be found a manageable and valuable means of lessening the danger and the pain of pneumonia.

Laxatives and cathartics are so much the hobby of the age, that we dare not omit them in the treatment of any disease, although in this case, they are referred to more to hinder the abuse than to direct the use of them. Active purgatives, especially those denominated hydragogue, from their producing watery discharges, are always hurtful in pneumonia. The administration of the cathartic pills, vended in such abundance as quack nostrums, even before the physician is consulted, has done, within my observation, great mischief. Even physicians will tell you that in this disease, the bowels must, to a certain degree, be kept active; as they term it, they must be kept in a soluble state. This maxim I consider wholly wrong. The action of the bowels need not be greater than in health; and when the disease is attended with prostration, it is far from being necessary that daily, or even second day, discharges from them should be had. A moderate degree of costiveness, even extended to four or five days, without an evacuation, has never, in my practice, seemed to be productive of particular mischief; while one or two active discharges, from any remedy, have always proved injurious. If, from the total inactivity of the bowels, a discharge from them should be deemed necessary, there will be no danger in the administration of a dose of castor oil; but the calomel used as above recommended, will almost always of itself be sufficient. I think it unnecessary to dwell longer on the subject of cathartics in this disease. Use them sparingly; but do not abuse them.

Medicines producing perspiration, have been much used in pneumonia. The antimonials which I have recommended, effect this purpose in the way most beneficial. There are not, however, wanting, cases in which this remedy fails to produce the slightest perspiration. When this happens, the best remedy is unquestionably opium, and it is to be governed by the principles already explained. Beyond this it is not necessary to go in our efforts to induce perspiration, and the subject is alluded to, more that the use of the numerous stimulating teas and infusions which will be offered in these cases, should be avoided, than for any other cause. They are, in general, useless or hurtful.

Counter irritants, such as mustard, blisters, and others have been much used in this disease. I think their use requires restriction. To me it appears, that the application of mustard over an inflamed organ, during a high state of fever, and when that organ is in an intense state of inflammation, can hardly do good. True, it seems sometimes to give relief from pain; but I have observed that the relief is of very short continuance; that it is scarcely more than atoned for by the pain of the application; and that the symptoms of the disease, are not bettered by it. I therefore object to these remedies during the continuance of the high state of fever, and while the skin is parched and dry. When this stage of the disease has passed, and the skin becomes moist, the application of mustard in parts contiguous to great pain, is beneficial. It may be resorted to when pain suddenly succeeds to ease, and the patient is thrown into great agony at the time. It should not be continued to the formation of a blister, but removed when the skin has become thoroughly red, and by no means continued after a yellowish and shrivelled appearance begins to take place. When the extremities are cold in the declining state of the disease, and the patient is struggling in a doubtful state, these remedies become more useful. They may be applied to the extremities, from time to time, as the occasion may seem to demand. For blisters I have a much greater regard. They are, if properly used, generally beneficial, and sometimes I have no doubt exceedingly important. They should not be applied in the commencement of the disease, but at the time designated by Doctor Rush, as the blistering point; that is, when the skin has, from the use of other remedies in the progress of the disease, become moist. Used before this time, they produce a great deal of unnecessary pain and excitement, and instead of being filled with a thin watery fluid, they are puffed up with a

thick jelly, which will not flow when the epidermis is cut. Such blisters dry up immediately ; but if the application is delayed until the skin becomes moist, they fill with a thin serum, and continue to run for many days. I have no doubt they lessen the inflammation in the neighboring organ, and it is certain that they often relieve the severest pain. There is no case in which I have used this remedy with more satisfaction, than in pneumonia. Where the disease is protracted, and the lungs especially in danger of suppuration, it seems to me dangerous to dispense with them. A great many articles besides these might be mentioned as producing a counter irritation ; but I believe there is no advantage in any of them which may not be obtained by those I have mentioned.

Medicines which are supposed to increase expectoration, have had a great run in the treatment of this disease. They are of acknowledged uncertainty in their effect. A great many that have been used under this title, would be pernicious during a state of inflammation like that of pneumonia ; and, except the antimonial and mercurial remedies already referred to, I have none of this class to recommend.

The closing stage of this disease, presents us with our patient sinking into the arms of death, or rising towards recovery. Little need be said of the means of support, when in the awful condition first alluded to : but where the case is terminating favorably—where the expectoration has become sufficiently easy, the pain subsided, and the fever almost gone, the prostration of strength calls for some means of support. Generous food, introduced according to the strength of the patient, forms the surest and most uniformly proper means. But the tonic medicines, and indeed the powerful stimulants sometimes recommended, find their places here, as well as in other cases of debility. Wine, in moderate quantity, may be used once or twice a day in the beginning, continued as long as it is found necessary, and then suspended. Pure spirit may be used in the same way, and in some respects, I have thought it the best article. Where the patient has been extremely low, and the recovery previously slow, tonic medicines, vegetable bitters, preparations of iron, elixir of vitriol, and other remedies of this class, used according to the urgency of the case, will be proper.

## TYPHOID PNEUMONIA—PNEUMONIA TYPHOIDES.

This form of pneumonia has been long known to medical writers, but treated of under so many titles, seen in so many varieties, and combatted with such different remedies, that it becomes difficult or impossible to recognise it in the various treatises which have referred to it. It is not strange that pneumonia should sometimes be accompanied with a fever of a low or typhoid grade, as well as inflammations of the intestines, or other organs having mucous surfaces. Why it should at one time be attended with a fever of a stringent and highly inflammatory kind, and at another time with a disease of an entirely opposite character, we shall, in the present state of our knowledge, vainly enquire. I have separated this part of the subject from that which has been presented above, for the purpose of making it as perspicuous as I can. Every one will confess that in the books heretofore published, the subject is far from having been analyzed, or discussed in a manner suited to the wants of the student.

Typhoid pneumonia presents itself in many forms, and under various circumstances. It sometimes occurs in individual cases, unconnected with any particular state of the atmosphere, or epidemic tendency to disease. It is rare, to meet with two cases about the same time, exhibiting different states of febrile action. If a highly inflammatory case presents itself, it will be rare, within a few days, to find another of a different character. Yet it is true, that the disease sometimes makes its onset with symptoms highly inflammatory; soon terminating, however, in the typhoid prostration which we are about to consider. No disease requires, therefore, more watchfulness in its treatment; for the physician who prescribes correctly for the symptoms to-day, may find a similar remedy to-morrow, wholly inapplicable. In addition to the title under which we are treating of this disease, we shall be obliged to recognise it in the accounts given of it by others, under the titles "Cold Plague," "Pneumonia Notho," "Typhus Pleurisy," "Bilious Pleurisy," and perhaps many others. As an epidemic, this disease was first recognised in South Carolina, about the year 1815. The spotted fever of the Northern States, which had preceded it in point of time, has been thought by some to be the same disease. I have, however, no sufficient evidence of that fact; but incline to the belief, that



it is identical with the typhoid fever, of which, for many centuries, we have regular records, in all the countries in which medicine has been a science. Typhoid pneumonia is, as I think, a different disease. In South Carolina, it put on a fearful degree of malignity. I well remember the startling accounts, with which it was heralded, in the newspapers. It was not till the year 1818, that it made its appearance in Milledgeville. We were prepared to expect it, and with the opening of winter, we soon made this new acquaintance. I shall not soon forget the first case in which I witnessed its power. I was called to a servant girl about ten years of age, who it was represented had been attacked an hour or two before. She was apparently in a deep sleep, and could not be aroused to notice any thing; her extremities cold, breathing heavy, and rather snoring. Her pulse not very rapid, was so soft that it did not make the slightest resistance on pressure. I was not prepared to pronounce it a case of the expected epidemic, or cold plague, and was wholly at a loss to account for the situation of my patient. It was not long since I had heard the eloquence of Doctor Rush, describing the power of the lancet to bring forth excitement, from a sudden prostration like that before me—to raise the pulse, and to restore the powers of nature when they appeared to be lost. Uncertain what course to pursue, I corded the arm of my patient, opened a vein and drew from it about an ounce of blood. It flowed drop by drop, the circulation being insufficient to afford it more rapidly. It was dark, and showed no tendency to coagulate, but remained fluid in the cup in which it was drawn. Binding up the arm, I proceeded in search of a remedy, still uncertain what course it would be proper to pursue. I decided, however, to administer a diffusible stimulant of great power, and soon returned with such a one in my hand. I found my patient wholly unable to swallow, and she expired in three or four hours. Such was my introduction to epidemic typhus pneumonia, or cold plague.

The disease soon spread at a fearful rate. Many cases presented themselves in two or three days, but they were comparatively mild, and the mortality which attended them did not prove to be great. I am not prepared to think that the disease will present itself in the form I then witnessed it, in a great many places. The disease described under the titles "Bilious Pleurisy," "Typhoid Pneumonia," &c., differs considerably from that I witnessed in 1818. Yet it will be my duty to describe it as I saw it. And I will here premise that the

disease, as I saw it in that year, was, from that time, epidemic, several winters in this section of the country. It has not of late presented itself so frequently; but I have met with it almost every year since.

Like the inflammatory pneumonia, this disease is usually ushered in by a chill. The shivering and uneasiness felt by the patient is probably less, but the actual coldness of the flesh is much greater. The pulse also, in extreme cases, is easily recognised, full, frequent, soft—soft as air on the finger. Under the slightest pressure, it can scarcely be felt at all. Pain in the head is a very common attendant, even at this time. Delirium so uncommon, at this stage in other forms of the disease, is frequently present. The chill, however, gradually subsides, and a fever, with increased circulation, takes place. The characteristic pain of the lungs will also now make its appearance. But the breathing, although oppressed and laborious, does not appear to be attended with as keen pain, as in the other variety of this disease. Other pains are frequently present, and, in some instances, a pain in a part apparently not qualified to affect life, seems to form the most violent part of the disease. A pain in the knee, in the shoulder, in the back, or indeed in almost any part of the body, sometimes comes on with a suddenness and violence almost insupportable. When the affection of the head assumes its worst form, producing delirium and coma, all other symptoms are lost sight of, and the patient frequently dies, apparently with inflammation of the brain. These are the cases, termed in the country, “head pleurisy.”

Perhaps the most characteristic symptom in this disease, is the state of the lungs. The cough is as violent as in other cases; but the mucous secretions from the lungs, are abundant. I have seen them more copious in this, than in any other disease. At first a ropy fluid is freely thrown off, resembling the white of an egg, a little beaten. Soon its tint is changed; a light claret color is observed in it, not in streaks of blood, or in a rusty dark color, as in inflammatory pneumonia, but thoroughly mingled through the whole, presenting a uniform claret colored fluid. I have seen such fluid discharged in mouthfuls, so that in less than two hours, a pint would be discharged. And this symptom I have seen, not in one or two, but in many cases. Where the disease is less violent, and the bloody exudation does not present itself, a colorless fluid continues to be discharged. But this also is sufficiently copious and the patient, although exceedingly worried with the effect,

is compelled to throw it off very frequently. This state of the secretions from the lungs, does not run into the formation of thicker, and higher colored matter; but when the case terminates favorably, it gradually disappears, so that the patient is by degrees relieved from it. The prostration of strength which attends these attacks, is as great as in any other disorder. Within a few hours the patient may be unable to rise from his bed. Such is the cold plague, as I have seen it.

In the epidemic to which I have referred, there would have been no propriety in the term, bilious pleurisy. The disease presented no symptoms of superabundant bile; but there can be no question that a disease of kindred character is often met with, in which the symptoms of diseased liver, and disorder of the biliary functions are present. These cases appear, in the outset, to affect the stomach with great nausea and vomiting. The eyes become yellow, as in jaundice, and the urine of a corresponding color. Some pain in the region of the liver is felt, and the disease rather disposed to assume a chronic form, runs frequently into a very low typhus fever. There are other cases in which the same symptoms occur, with the exception of those which I have referred to the liver. The fever assumes a lower grade; the pulse, although apparently full, is never tense; the pain of the lungs is far from being as acute as in the truly inflammatory disease. Blood from the arm coagulates, with a bluish serum floating over it. But the buffy-coat, and firm coagulum are wanting. The state of the mouth and tongue, also correspond more with typhus fever. In the early stage, the tongue is shrivelled and dry; a brown fur is found on it after a few days; and in this shrunken form, it is not under the command of the patient. A dark sordes collects around the teeth and the breath becomes exceedingly offensive—a taint which experience will readily recognise as that which is found in the last stage of typhus fever.

Few points in the practice of medicine, are of more importance than the discrimination between the highly inflammatory, and typhoid attacks of pneumonia. Their symptoms, although greatly resembling, have in them a difference which may be recognised, and that difference should be closely scrutinized. I have attempted to point out the differences which are most obvious. I think it proper to repeat them here. In the pulse of the inflammatory disease, we find violence and tension, or great strength—in the typhoid the reverse. The lungs in the inflammatory disease, secrete but little; they are dry. In the typhoid, they are never dry; although, from ex-

treme debility, patients are sometimes seen to labor hard, and in vain, to throw off the mucus with which the lungs are loaded. The prostration of strength of the first day, may be considered characteristic of the typhus disease ; and it is always to be remembered, that the disease which commences its career with all the inflammatory symptoms, may nevertheless, run down to the lowest typhus form.

A word or two in regard to the cause of this form of pneumonia. I have said that when epidemic, it depends upon a cause wholly unknown. We meet it as it is, and cannot assign for it any cause. But, in many instances, it occurs in individuals from causes which appear to be occasional, such as exposure to cold, and from the peculiar state in which they are found, it assumes a typhus character. I have no doubt that many persons who have, from repeated attacks of bilious fever, or chill and fever, become diseased in all their viscera, are particularly liable to this disease. I believe it is far more common in those regions which are denominated in this country, "sickly," than in others ; because there it meets with individuals whose health is exactly suited to its production. Authors have remarked, that this disease is generally attended with a lingering recovery. This I think is not the case, except with persons who were previously indisposed, with liver and spleen more or less inflamed, and perhaps all their digestive functions in a state of disorder.

#### TREATMENT.

When this disease occurs from an epidemic cause, and without the bilious symptoms to which we have referred, and when the symptoms are attended with the prostration I have described ; and this is the case in most of the dangerous cases, I have no hesitation in using immediately the most powerful stimulants. I combine for this purpose three grains of opium, and ten of camphor into three powders, and administer one of them hourly, till the whole are taken. If a copious perspiration is brought on, and the patient relieved of pain, I consider him almost entirely safe. He is not, however, to be abandoned ; but the same remedy repeated, from time to time, afterwards whenever the skin becomes dry, and he becomes a little restless. This course is to be pursued for two or three days, when stimulants and tonics may be combined in the treatment. The old remedy, bark and snake root in infusion, which we used in 1818, is probably entitled to its place still.



Certainly I was then well satisfied with its effects ; and I have used it, from time to time, from that day to this. I have had it prepared in the following way. Take of Peruvian bark two ounces, black snakeroot half an ounce ; pour on them a quart of boiling water, and set the vessel near the fire till well drawn. Two ounces, or a common wine glass full of this infusion, is to be given at a dose. It may be repeated every two hours, or less frequently, according to the judgment of the practitioner. Laudanum, in such doses as the case seems to require, should be added—from sixty to one hundred drops in the course of the day. In cases of the most acute character, where, in its natural course, the disease would run to its termination in three or four days, I have found it unnecessary to use any other remedies but these. At the close of the treatment, when the symptoms of the disease have nearly disappeared, a judicious use of spirit and water, or toddy, once or twice a day, may be resorted to.

Where the disease is protracted beyond the fifth or sixth day, or where, at an earlier day, the symptoms of local disease in the lungs and liver are prominent, calomel should be resorted to. It should be administered in combination with opium or laudanum, and doses of from two to five grains, may be repeated three or four times a day. In these cases also, after the use of calomel, it seems proper to continue the use of bark and snakeroot. There will be little benefit in changing this for other vegetable tonics, or bitters ; but if the bark were not at hand, I would not hesitate to substitute gentian, or even wild cherry-tree bark, or any other convenient vegetable bitter. Other stimulants also are equally allowable, and may be resorted to, if those I have mentioned are not within reach.

In the form of this disease which has been termed bilious, a great deal has been said in favor of emetics. I have made but little use of them, but should not hesitate in the event of the stomach's proving irritable to give ipecac, or any mild emetic. I should by no means venture on tartar emetic, for in this form of the disease, I have seen it produce copious, wasting, watery discharges, requiring to be arrested by the most powerful opiates.

Bloodletting, which would seem to be indicated from the oppressed state of the lungs, is, in most cases, wholly inadmissible ; yet I have, in a few cases, resorted to it, with very satisfactory results. Where I have found the skin of my patient dry, the pulse full, although not hard, the cough exceedingly troublesome, and the breathing short and hurried. I

have not hesitated to draw from the arm a reasonable portion of blood. I have always followed it instantly with large doses of opium, and other stimulants, not dreading even the use of spirits in such cases. Beyond this, I have not ventured on the use of the lancet. Indeed the cases in which I have seen it used in the hands of others, have not given me reason to change my course. Much has been said in favor of the volatile alkali, as a stimulant in these cases. I have not much experience of its use, but should not hesitate to substitute it for camphor. It should never induce the neglect of opium, which I think by far the most important remedy in this disease. Towards the close of the disease, the sulphate of quinine, now universally used in place of the Peruvian bark, may find its place in the treatment. In many instances, it might not be practicable to procure either the Peruvian bark in substance, or the snakeroot. In such cases let the sulphate of quinine be substituted. Doses of two grains may be repeated five or six times in twenty-four hours. If the case is acute, and seems to be running rapidly to a crisis, larger doses may be administered. I should not hesitate to give fifteen or twenty grains in twenty-four hours; but this is not, by any means, to be continued more than one or two days. The mischiefs which have resulted from the protracted use of heavy doses of quinine, should not be forgotten in this, or any other disease.

Relapses are thought to happen oftener in this, than any other form of pneumonia. This, in my opinion, applies only to the feeble and disordered persons who happen to be attacked by it. They should be sedulously guarded against all causes of relapse. They should be clothed in flannel; and should avoid all exposure to dampness and cold.

---

## DISEASES OF THE HEART.

There are few things in which I take less pleasure, than the study of incurable diseases. For a long time, the affections of the heart were comparatively little noticed. The dissector of dead bodies, could not fail, in many instances, to find that it had been diseased; but the faint hope that remedies might be useful in such diseases, gave to their investigation, a discouraging rather than an inviting aspect. A new spirit has arisen in the medical world, and the diseases which promised the least reward for their investigation, are now studied with the

most labor; those of the heart especially, since the use of auscultation, have become a matter of much greater interest. Still their study seems to be quite unpromising, and I shall satisfy myself with writing concerning them, a very short essay.

The heart is composed of muscular and tendinous matter. The muscles are of all parts of the body the least subject to disease; but the tendinous or fibrous matter cannot boast of equal exemption. The diseases of the heart are, therefore, mostly seated in its valves and tendons; which are particularly subject to inflammation; and late observation seems to prove, that they are not an unfrequent seat of rheumatism. Inflammatory diseases of this description, are certainly a fair subject of medical treatment, and form a class of diseases of the heart well worthy of investigation.

Every one should know, that in the heart lies a particular power, which is excited in the circulation of the blood; that this organ is in fact a compound forcing pump, receiving into its two chambers, at its dilatations, the blood from all parts of the body; and, at its contractions, throwing forth this fluid with great violence through the lungs, from one chamber, and through the whole system, from the other. That a muscular effort so powerful should be performed at every pulsation, averaging perhaps seventy for each minute for a long life, is the crowning wonder in the structure of man. The muscular fibres which perform this contraction, are as I have said, a tissue of the body very little subject to disease. In this organ, however, they undergo great changes, some of which are the result of their own diseases, but others the consequence of those of other organs. The particular changes noticed, have been, on the one hand, a softening, thinning, and finally bursting of a chamber of the heart; on the other hand, a thickening and augmentation of volume, and strength, equally remarkable.

#### HYPERTROPHY.

The heart, in a healthy state, is about the size of the clenched fist of the owner—in men, its weight is from eight to nine ounces; in women, something less. In hypertrophy, the dimensions and weight of this organ are increased; its bulk and its strength are frequently three times, perhaps more than twice three times, their proper size and strength. This increase in the size and weight of the heart, is not always a proof that the heart itself is diseased. Every muscle of the body increases in volume, when its contractions are habitually in-

creased ; and this law applies with equal force to the heart. When the circulation of the blood is impeded by the contraction of the arteries that lead from the heart, by diseases in its valves, by the pressure of tumours in other organs, hindering the passage of the blood in the arteries, or anything in fact which can give to the heart the necessity of more powerful contraction, to empty itself of its contents. The organ will, by this law of nature, gradually acquire force to perform its office, with a corresponding thickening and increase of its muscular tissue. This cannot properly be called a disease of the heart ; it is rather an instance of the patch-work which nature, in so many instances, performs, by compensating for the imperfect action of one organ, by an increase of power in another. This disorder of the heart is oftenest found in its left, or largest ventricle. It is, however, sometimes present in the right ; less frequently it is connected with a giving way, and finally bursting of the heart in aneurism. Now it is obvious, that in all these cases, we shall seldom be able to point out a successful remedy ; they are to be borne to the end, with such slight benefits as the avoidance of any excitement, perfect regularity of life, and habit and a strict regard to temperance, can give.

A great deal has been said of the light thrown on the diseases of the heart by auscultation, or listening to its sounds ; and I have no doubt that a great deal may be known of the situation of this organ, by this means. The utility of such knowledge when acquired, is the difficulty, and the doubt. I have no belief that any account I could give of the tedious investigations which have been advised, would be of much benefit. I have not resorted to them myself, but have been content to make my prescriptions from the study of the general symptoms, which I shall proceed to describe.

The heart is seldom much diseased without manifesting it, by obvious symptoms. The disorder its diseases produce in the circulation, is first noticed. On feeling the pulse at the wrist, great irregularities will be felt in it ; but these irregularities vary indefinitely. Most commonly there are several quick pulsations in succession, followed by an interval of more or less length. On placing the hand on the breast, the motions of the heart will be found to correspond with the pulsations at the wrist. If the disease has produced much alteration in the volume and position of the heart, that alteration will be obvious enough on the examination. Almost always the pulsations will be felt over a much more extended surface, than they ex-



tend to, when the organ is in health. In some instances, the whole breast, on both sides, seems to be occupied with an enormous palpitating and fluttering heart. These attacks of palpitation are at first not very frequent, and soon pass off, leaving the circulation very much as it was before the attack. But as the disease progresses, the attacks become more frequent; and, at last, the circulation ceases at any time to be healthy.

These symptoms do not always indicate a chronic disease of the heart; they arise, in many instances, from a peculiarity in the nervous constitution, which has so far eluded the scrutiny of the pathologist. These cases we have been obliged to satisfy ourselves with denominating nervous; and they have been thought to present themselves most frequently in individuals of the softer sex; but I am far from being certain, that this opinion has a sure foundation in nature; I have about as often met the disease in one sex, as in the other.

In nervous temperaments, palpitation of the heart is often brought on by things operating on the digestive functions. Food which produces a fit of indigestion, will often bring on an attack of palpitation; in other instances, tea or coffee seems to produce the same effect.

Diseases of the liver have been long celebrated, for the influence they exert over the functions of the heart. Every one who has had much experience in the treatment of the disorders of this organ, which follow the autumnal diseases of a Southern climate, will recollect the cadaverous looks, throbbing hearts, and violent motion in the arteries of the necks, of such patients. These symptoms are without interval; but the cases present many instances of the most painful palpitation, from time to time. Great depression of spirits attends this state of health; and the brain itself is frequently, in the end, involved in the disorder.

Pain is an exceedingly uncertain symptom of the diseases of the heart. In some instances, it is exceedingly distressing, and almost always present; in others, the sensation experienced by the patient, is one of oppression and discomfort, rather than pain; but there are other cases still, in which there are attacks of pain, extending along the main arteries down the arms, with a violence too great to be borne.

Now, in all these diseases of the heart, there is an obscurity, which justifies a great distrust in the opinions formed of their nature. It is true that when, from any cause, the volume of the heart becomes greatly enlarged, that fact can be almost cer-

tainly ascertained. But in the minor diseases of this organ, where its office is performed without very great irregularity, the question whether it is a nervous, or functional disorder, or arises from some structural derangement of the heart itself, will remain uncertain. But this uncertainty is a less evil than it might at first appear ; for the remedies which it will be necessary to administer, will be decided by the state and condition of the general health of the patient.

#### PARTICULAR DISEASES OF THE HEART.

Although our knowledge of this subject is so limited, it is almost impossible to treat of it without dividing it into several heads. Simple hypertrophy is thought to be a very common disorder ; it consists in an enlargement and thickening of the walls of the heart ; and in what degree it shall exist before it is pronounced a disease, is a matter of question. Every muscle in the body, when subjected to great, protracted, and often repeated effort, becomes enlarged, or hypertrophied. Some degree of enlargement of the heart, is believed often to result from the simple effect of violent labor, throwing into it a vast amount of blood, and producing thus a great increase of the circulation. Mental effort is said to produce the same effect ; and I have had occasion to observe in more than one instance, that my patients, when affected with these disorders, were totally incapacitated for mental application. So soon as the heart has acquired a considerable increase of power, its motions become more obvious, and the patient becomes sensible to every pulsation. The blood is thrown with too much violence into many organs, and congestion of the brain, hemorrhage from the lungs, and other alarming symptoms, sometimes supervene. The complexion is not rendered pale and cadaverous from disorders affecting the heart alone. On the contrary, the blood is frequently seen flushing and crimsoning the face, while all the symptoms of suffusion and over-fulness of all the vessels, are obviously present. The heart, in the mean time, progresses in its developement ; it grows still larger, and becomes oppressive to the other organs contained in the chest.

These cases, when they arise without organic derangement of the blood-vessels which arise in the heart, are fair subjects of medical treatment ; and, in many instances, admit of a perfect cure. The volume of blood must be reduced ; and this is to be done, not only by remedies, but by a very rigid and low regimen. It would be useless to enter into the details of treatment, in such a case. Every cause of excitement should be

carefully avoided ; food should be taken in limited quantity, and of the least stimulating kinds. If the pulse does not give way, and the circulation become more uniform, bloodletting and mild cathartics should be used ; and these remedies should be continued, with an energy and perseverance suited to the importance of the case.

Other cases of hypertrophy, arise from mechanical obstacles to the circulation of the blood; the heart being compelled to empty itself at every pulsation, increases in strength in proportion to the resistance it meets with. The obstacles to the circulation are seldom such as admit of removal, by the use of remedies. Some respite from pain, some relief from suffering, and some mitigation of danger, may arise from the treatment I have recommended above ; but no recovery is to be expected.

There are yet other states of enlargement of the heart, which we are bound to contemplate, although they are of rare occurrence. The heart cannot always resist the force brought against it ; its walls sometimes gradually give way, the organ becomes enormously large, while its walls become thin, at some points, and thick at others; the whole chest is, as it were, full of heart ; and, in some instances, post mortem examinations have shown the dimensions of this organ to equal that of the largest bullock. In this state of things, nothing can be hoped from remedies, but a temporary alleviation from suffering. It is useless to say more. Since every motion, every effort, must be made with the danger of instant death, quietness of mind, and stillness of body are about as much as can be recommended.

#### ANGINA PECTORIS.

Like other diseases of the heart, this has no common name ; it is fortunately of such rare occurrence, that the great community of men has not found a name for it necessary. Its attack usually takes place suddenly, and without warning ; the patient may be walking, especially up-hill ; he is seized with pain in the region of the heart, with a sensation that resembles strangling. He stops suddenly in his course, supports himself by any thing he can lay hold of, and waits in horror the result. Pale and haggard as death, he still breathes without particular difficulty ; and, if the attack is not fatal, the pain is soon over, and he may resume his walk again. Months may elapse before he is attacked again ; but it is almost sure to return, and when it does, its violence is increased. The disease occurs

more frequently in men than in women. Several attacks may be survived ; but, in the end, it will be fatal. The exact state of the heart which gives rise to this disease, is, I believe, but little understood ; its treatment is therefore obscure. It has been advised to treat with moderately stimulating remedies, avoid the exciting cause of the disease, and trust to Providence for the rest.

#### INFLAMMATION OF THE HEART.

The heart and its investing membrane are subject to inflammation. This inflammation is not apt to extend to the muscular fibres ; but confines itself to the membranous portions of the heart, sometimes extending to the whole, but in other instances, it is more limited. It is difficult to distinguish between the varieties which may exist in this disease. It is in all cases a dangerous disorder. When it affects the pericardium, or sack containing the heart, it frequently results in a local dropsy of the organ ; in other cases, adhesion takes place producing fatal impediments to the motions of the heart.

The symptoms which attend this disease, are from the first alarming. The expression of the countenance is peculiar, and distressing ; palpitation of the heart, oppression at the pit of the stomach, pain, inability to lie on the left side, stiffening of the left shoulder, and various other symptoms attend this disease. Delirium sometimes follows, which is sometimes quiet, at others raving. Fever is a common attendant of these symptoms, and the whole of them so often arise in rheumatism, that they have been thought to be generally dependant on that disease. When these symptoms arise in cases of rheumatism, they should be considered as a transfer of that disease to the heart, and treated accordingly.

It is manifest that a rheumatic inflammation of the heart, with all its characteristic tendency to derange the ligamentous tissues, cannot be void of danger ; and the most potent remedies should without delay be used to arrest it. Bloodletting, by means of cups and leeches over the breast, should be our first remedy, and after this is done, let a large blister be applied over the part. The internal remedy mostly relied on is calomel, which should be given in doses of five grains two or three times a day, till a salivation is brought on. If the patient is restless, give Dover's powder, in doses of twenty grains once or twice in twenty-four hours. Let the most rigid abstinence be observed, and hope for relief, when a free salivation is brought on.



---

DISEASES OF THE VEINS.

The veins do not appear to be subject to many diseases, but the few which may be fairly characterized as diseases of these organs, are of great importance. I shall restrict myself to the notice of two of them, inflammation, and varicose veins.

*Inflammation of the veins* is not a very frequent occurrence; it may arise spontaneously, or from wounds, or injuries. In surgical operations, though not a very frequent consequence, it is looked on with the greatest dread. The peculiarity of this inflammation, is its tendency to spread along the trunk of the vessels towards the heart; and when suppuration takes place, to allow the matter to be thrown into the circulation of the blood. This is always a dangerous, frequently a fatal result. This inflammation may arise from trivial, as well as large operations; I have seen it arise from bleeding in the arm, and reduce the patient to great extremity, when there could be nothing seen in the health of the patient, or nature of the operation, to have led to the slightest suspicion of such a result. From larger operations, in which the trunks of veins are divided, inflammation is frequently brought on, and in these cases, which too frequently terminate fatally, it will often be found, that abscesses have been formed in distant parts of the body, especially the liver. The most common cause of dangerous cases of inflammation of the veins, is parturition or delivery in childbed; but of this we shall treat in another place.

Inflammation of the veins, produces symptoms so peculiar, that it may be easily discriminated from other inflammatory disorders. But little redness is seen in the affected part, and commonly the tumefaction, or swelling, extends to the whole limb in which the disease takes place. There is great pain and shivering, and commonly in this agony, a copious perspiration is constantly present; but the fever which attends it, is commonly typhus, with low pulse, great prostration, loaded and brown tongue, with other typhoid symptoms. When suppuration has taken place, and the matter is thrown into the system, a dangerous hectic fever takes place.

## TREATMENT.

The treatment of this inflammation is by no means settled. From the highest authority, we are taught to practice local bleeding by leeches, cold applications, moderate cathartics,

and other remedies of a debilitating and exhausting character. It is with great hesitation, that, from a limited experience, I feel bound to enter my protest against this practice. It has not succeeded, in my hands ; and an opposite course, which has been tried by others, has proved abundantly more successful with me. The great remedies for inflammation of the veins, are opium and hot applications. There can be no doubt of the benefit of a brisk cathartic, given at the onset of these cases ; but unless it is practiced at first, it had better be omitted ; for these remedies will not operate under the use of the opium, which is so indispensable in the treatment of this disease. I do not know any particular rule in the administration of opium. I have been in the habit of administering it, twice in twenty-four hours ; in extreme cases, a tea spoonful of laudanum, evening and morning. At the same time, hot applications should be made over the course of the vessels affected. A large poultice thrown into a bag, will retain the heat for several hours, and may be replaced by another when it becomes cool. The relief of pain which attends this practice, is very great ; I have had my patients, for days together, demand the renewal of the heat, with great pertinacity ; while, in the same case, a temporary application of cold would be attended with the greatest aggravation of the pain. This course of treatment is to be kept up, as long as the pain and inflammation are present. The sensations of the patient will, many times, direct us very well ; they will call with sufficient punctuality for their dose of laudanum, and warm applications.

Now, this seems to be a strange mode of treating an acute inflammation, in which the great danger is a suppuration of the parts concerned ; and I confess that I have been driven to the adoption of it, almost from necessity. There can be no doubt, of the great comfort and relief of pain afforded by this mode of treatment ; and when it is considered, that by these means, patients are deluged with perspiration, from day to day, it may be perceived that there is secured, by this treatment, a copious evacuation of fluids, which may hinder suppuration. Whether this be a satisfactory explanation or not, is of little consequence ; if the practice recommended in the disease is successful, and greatly abridges pain and suffering, it is enough.

#### VARICOSE VEINS.

These are exceedingly common, being found on the lower extremities of a great many persons. When slight, they

are productive of little inconvenience; and are commonly seen on the outside of the leg, in small crooked veins, sometimes enlarged into knots. When the disease is worse, the larger veins on the inside of the limb, are affected; and then the disease frequently becomes troublesome. The first inconvenience noticed, is a sense of weight, and bursting pain, when the patient stands on his feet. This pain is relieved by a horizontal posture of the limb; and the patient is frequently seen to take a seat, and to raise the feet on another chair. The case may, at last, become too painful and inconvenient to be willingly borne; and then it becomes a subject of medical treatment. There is no assigning any reasonable limit, to the enlargement of the veins in this disease. They sometimes produce enormous tumours; and, in other instances, burst, and form exceedingly untractable and deep ulcers. The disease, when once established, is not very often entirely gotten rid of. Even when the cause is removed, as in pregnant women by delivery, the veins which have been injured, seldom return to their original dimensions.

Children are frequently born with certain points of varicose veins. They are first noticed producing a small bluish tumour, and are apt to spread and increase during life. I have seen a man whose nose had, from this cause, enlarged to five or six times its original dimensions; and another, in whom they occupied one of his lower extremities, in which the veins only grew, but the muscles and bones had scarcely attained half their proper size. The whole limb, when he was grown, appeared like a strange, vascular, membranous sack. In all these cases, the size of organs thus distorted can be diminished by pressure.

#### TREATMENT.

Nothing would appear so simple as the removal of superficial varicose veins; yet few diseases have proved more untractable and difficult. For a long time, surgeons were in the habit of cutting across, and taking out portions of these veins; but these operations have been proved by experience, to be attended with more danger than benefit. Small arteries which supply the blood to these parts, have been taken up, with the expectation that by cutting off a portion of the blood, these diseased veins would be enabled to circulate the rest. These operations are now considered generally useless. Pressure, when the part admits of its easy application, is perhaps the best remedy. Varicose veins of the lower extremities, admit

of the application of a roller on the limb, in such a way as to mitigate the pain, and greatly relieve the patient. This is a remedy in the reach of every one. The patient should be taught to apply the bandage himself, in such a way as to operate equally on all parts of the limb. Employments ought to be sought which favor the recovery from this disease of the veins. The patient ought not to be kept standing too much on his feet.

Ulcers which are formed, by the bursting of varicose veins, are frequently attended with great and dangerous hemorrhage. The flow of blood has always, so far as I have seen, ceased, on the application of pressure, and placing the patient in a horizontal position. The healing of these ulcers is difficult; but they require no particular remedy. Where the irritation becomes considerable, and the pain extends along the vein towards the heart, the patient should immediately be allowed to rest in a horizontal position, with a bandage moderately applied on the limb. In this way, the inflammatory symptoms will be speedily removed, but the ulceration will not be gotten rid of in a reasonable time, unless the patient abandons all other pursuits, and keeps a horizontal position, till the cure is affected.

---

### INFLAMMATION OF THE STOMACH—GASTRITIS.

This disease is to be divided into two forms—the acute and the chronic—the acute being so termed, because of its rapidity, violence, and danger—and the chronic, because of its slow progress, and long continuance.

*Acute inflammation of the stomach*, is a very rare disease, except from the action of corrosive poisons received into it. It is sometimes, however, met with as an original disease, not easily traced to any particular cause. Its symptoms are plain and striking. “Intolerable thirst, desire for cold and acidulated drinks, constant nausea and vomiting, pain and burning sensation about the stomach, and fever—these are the symptoms of a violent gastritis.” If they are not arrested speedily, the patient rapidly sinks into a state of great prostration of strength, with feeble pulse, cold extremities, and profuse perspiration; and death, follows in a very short time. But this result is not always inevitable. The symptoms are sometimes less violent, and a greater time allowed for their further development. Respiration is hurried—the pulse rapid, with



great restlessness and inability to sleep—excessive tenderness and dread of pressure in the region of the stomach, point out the disease with some degree of certainty.

These symptoms, or several of them, occur in other diseases. I have seen almost every one of them in cholera morbus, and as many in bilious fever; and there are other diseases furnishing the same appearances. To discriminate these from acute inflammation of the stomach, is not always easy. In most cases, a short time will disclose symptoms of other diseases—in bilious fever the discharges from the stomach are more profuse, the tenderness of the epigastrium less, and the suspicions arising from the season of the year, and the locality of the patient, will protect us from error:—in cholera we have the same protection, and in attacks brought on by corrosive poisons, a close investigation will commonly enable us to judge correctly; but the pride of science must give way to the stubborn fact, that our greatest protection from error in recognising this disease, is found in the rarity of its occurrence.

Equally obscure is the investigation of the sympathetic relations of the stomach, with other important organs. Examinations after death have proved, that the diseases of the stomach have produced symptoms of disease in other organs, when those organs were not at all diseased. They have rendered it also probable, that if these symptoms, at first sympathetic, are allowed to exist for a length of time, the organ thus affected becomes itself diseased. Thus inflammation of the stomach, is known to have produced symptoms of inflammation of the brain, or of the lungs, or of the intestines. I think I have seen this in cholera infantum, where the lungs took on symptoms of inflammation, or the brain of dropsy, and these symptoms gave way on the proper treatment of cholera, with great irritation of the stomach. Nor is it to be questioned, that these cases, if allowed to continue, might have resulted in inflammation of the lungs, or dropsy of the brain, as the case might be. The development of these relations of important organs is yet in its infancy; and it must be confessed, that thus far in the majority of the cases in which these strange relations of distant organs have been found to exist, they were not suspected before death.

#### TREATMENT OF ACUTE INFLAMMATION OF THE STOMACH.

Recollect that acute gastritis is a very dangerous disease. All the remedies used in it should be thoroughly and faithfully tried. The patient must try to forget his thirst, pain or de-

sires of any kind, and do that only which will favor his recovery. He should not take a drop of water, far less a mouthful of food, unless it is exactly in conformity with the direction of his physician. He should also submit to the prostration of his strength, and not by vain and pernicious efforts to serve himself, lessen or destroy his hopes of surviving the attack.

*Emetics.* By far the greatest number of cases of acute inflammation of the stomach, depend on offending matter taken into the stomach. This should unquestionably, be ejected in the most speedy manner. Emetics are the readiest means, and should be chosen from the mildest, most certain, and speediest articles in their operation. Ipecac, and sulphate of zinc, possess these qualities in an eminent degree; the dose of either article is about the same—from ten to thirty grains, in water. The operation is far less painful than might be expected. I have found it far less than the apprehension of medical writers had led me to suppose it would be. These remedies, or either of them, are not always improper when the disease has arisen spontaneously. If the case is seen promptly, they are given without danger; and I have seen the appearance of bile in the discharges thus brought on, seem to give the greatest relief. But in most cases, the patient is not prescribed for, till by the vomiting attending the disease, every thing which can, in this way, be discharged from the stomach, is thrown up. The draughts of water so useful at this stage, in diluting the contents of the stomach, cooling its burning heat, and limiting its contractions by affording a matter easily discharged, have been taken. There is no longer any use for emetics—their use will be improper under these circumstances. They are not called for when corrosive articles, such as antimony or copper, which are emetics of themselves, have caused the disease. But water, tepid or cold, is to be used in all cases, on the commencement of the attack.

*Leeches and bloodletting.* These are the great remedies for inflammation of the stomach. There is but a moment, in which to use general bloodletting. The discharges from the stomach, are so great, and the prostration so sudden, that this powerful remedy cannot be used, except it is in the commencement of the disease. It is doubtful whether it is ever requisite, in cases arising from corrosive poisons. But in other cases, there can be no doubt of the great benefit of the abstraction of blood from the arm. Leeches are more generally useful. They should be applied at the pit of the stomach, or at the point of

the greatest tenderness. They are considered by far the best remedy for this complaint, and are to be used, at first in considerable numbers, and according to circumstances throughout the treatment. They are to be repeated from day to day, so long as the fever and tenderness of the stomach continue—due regard being paid to the strength of the patient.

*Ice and water.* This grateful article, is to be used cautiously, in a small quantity at a time, but is to be considered not only a necessary amount of drink, but a remedy. The ice may be swallowed whole, or dissolved. I do not think its remedial properties at all improved, by the addition of lime juice, or sugar, or any thing else. If ice cannot be obtained, let cold water, in minute quantities, be substituted. Nothing can be more hurtful than the unlimited indulgence of thirst, in swallowing large draughts of water, and throwing them up as soon as they are swallowed; but in my practice, nothing has been so beneficial as water administered in such quantity, as the stomach would retain without inconvenience.

*Blistering.* This is an important remedy in almost all cases of local inflammation. It had, for a long time, far too much credit as a remedy for diseases—its true place is, I fear, not yet found; and I think too little regard is beginning to be paid to it. Cold applications, by napkins dipped in the coldest water, or ice applied in bladders over the stomach, have almost driven blisters from the treatment of gastritis. But they have their time. Let the cold applications have their place during the first stage of the disease; but if the irritation continues after the fever has, in some degree, subsided, and the skin becomes bedewed with perspiration—apply a large blister over the stomach. I have no hesitation in saying, that at that stage of the complaint, blistering is more serviceable than leeches, or any other remedy with which I am acquainted.

*Opium.* This remedy is, of limited use in inflammation of the stomach. The great control it exerts over irritation, drives us to the use of it to control excessive vomiting in the outset. Its effect in cases of true inflammation of the stomach, I should think would be temporary. The dose should be large, and not often repeated. Its control over the action of emetics is various. Over tartar emetic it exerts a powerful control; over ipecac, or over verdigris, I have found it nearly powerless. But in cases of great prostration, I should not hesitate to give laudanum by way of injection. Nor should I fail in the last extremity, to remember that there was a comfort in this remedy

to be found in no other ; and that however desperate appearances might be, a recovery was yet possible.

*Cathartics.* No one would think of giving cathartics as a remedy for inflammation of the stomach ; yet as there is a harm in the costiveness which frequently attends it, the question, "what shall be done to move the bowels?" forces itself on us. Injections naturally suggest themselves, and should be preferred to more active means, as a general rule—they may be made active by additions of the neutral salts, or perhaps spirit of turpentine, but they will not always answer. I should still be very deliberate in deciding to use a cathartic. I should allow several days to pass ; but when the stomach seemed to be restored to its tranquility, I should prescribe a dose of castor oil, a Seidlitz powder, or some equally mild cathartic. If the case had been one of extreme prostration, great care should be taken, not to allow the patient to use any unnecessary exertion, or to rise to an erect position to have his evacuations ; and laudanum should not be forgotten, if the operation seemed excessive, or the patient faint.

*Food.* During the first stage of this disease, it would be as unreasonable to offer food to the patient, as to order him to march thirty miles—his stomach would be as incapable of the one service, as his muscles of the other. But the time must come, if he recovers, when food, to replenish the waste of his body, must be taken. It should be the least stimulating ; and perhaps not over nutritious. We may not find the digestive powers very much weakened, for this case is no dyspepsia. The patient may, therefore, be allowed a little greater range of articles from which to choose. Ripe fruits, especially stewed or baked, without much sugar, will be allowable, probably as soon as any thing. Bread stuffs follow ; and I think but little benefit will be done by reducing them to a fluid, or semi-fluid state—next animal soups, and flesh taken cautiously.

#### CHRONIC INFLAMMATION OF THE STOMACH.

The distinction between chronic inflammation of the stomach, and dyspepsia, is so far from being clear, that the ablest practitioners have either regarded them as identical, or so confounded their account of them, as to destroy the line of demarcation altogether. I have chosen to treat separately of these affections ; for admitting, that dyspepsia will produce, and co-exist with, chronic inflammation of the stomach, it often exists without that connexion ; and although a stomach inflamed can



no more perform its function perfectly, than an eye inflamed can bear without pain, the light of the sun ; inflammation of the stomach may exist independent of dyspepsia. In these cases the treatment is to be entirely directed to the removal of the inflammation ; and I shall confine my remarks to such cases as have arisen independently of dyspepsia. The subject is of acknowledged obscurity, and I shall not pretend to have rendered it less so.

#### CAUSES.

The stomach, we have seen, is rarely attacked, with a primary acute inflammation ; it is, in my opinion, as rarely attacked with a primary chronic inflammation. The cases I have met with, have been mostly in persons addicted to strong drink ; and I think the cases of inflammation of the stomach from this cause, are apt to be without dyspepsia. I know it is common to assign to this cause, the production of indigestion ; and I have seen many a cadaverous, thin, and wasted drinker, terminate his short career as a victim of dyspepsia ; but the majority of drunkards give evidence of increased digestive powers ; living and thriving through great excess in eating as well as drinking. It is in such as these, that I have seen cases of chronic inflammation of the stomach. Other causes certainly produce this disease. There can be no reason why the stomach should not be sometimes the original seat of its own diseases. Inflammation attended with ulceration or otherwise, unquestionably takes place in the stomach, from defects of its own. It may also happen from exposure to cold, or too long protracted dampness, or other general causes of inflammation. Certain articles of food, or medicines too long persisted in, may result in the same state.

#### SYMPTOMS.

The attacks of this disease are insidious. The languor, mental lethargy, cold extremities, and flatulence which attend dyspepsia, are perhaps more conspicuous in this, than in other forms of that disease. Pain about the pit of the stomach, with tenderness on pressure, may be expected to be present. But the pain which arises from the presence of food in the stomach, and from the common stimulant and tonic remedies, which are almost always offered to such patients, give perhaps the best evidence of the nature of the disease. These effects of remedies are perhaps the first to produce a fear in the mind of the practitioner, that his patient has inflammation,

ulceration, or possibly cancer of the stomach. The exact state of the viscus remains a secret till death, and an examination of the body discloses all. It was the fate of Napoleon, to sink under an unknown disorder of this kind, which was only made manifest by the dissector's knife.

#### TREATMENT.

The usual remedies for chronic inflammation, are to be employed here, with due regard to the functions and position of the stomach. Small bleedings, or leeches over the stomach, repeated according to circumstances. Blisters, or tartar emetic ointment, rubbed on till a pustular eruption is brought on—cold applications over the stomach, and the prudent use of ice or cold drinks. These remedies naturally suggest themselves to the mind; but the disease being in the stomach, the common receptacle of medicine, food, and drinks, makes it necessary to pay particular attention to these.

*Medicines.* There are few articles bearing the name of medicine, that I would willingly pass into an inflamed stomach. To lessen irritation and pain, give opium—from a fourth to half a grain of acetate of morphine, or its equivalent in laudanum. These may be repeated, according to the necessity of the case. Nitre—salt petre—in doses of from five to ten grains, given some hours after meals. If the bowels are costive, use injections; and if these fail, consider yourself compelled to give castor oil, rhubarb, senna, or some other mild cathartic. Let these remedies be used as seldom as possible—not oftener than twice a week. This I know will be thought too seldom, by many who have been taught to think “a soluble state of the bowels,” the first requisite in the treatment of every disease. But I say without hesitation, disturb the bowels as seldom as possible in chronic gastritis. This rule is the more necessary when the patient is sinking under ulceration, or perhaps cancer of the stomach. It would be easy to mention many remedies which have been recommended in these cases. But to what purpose? The curable cases will yield to these, the incurable to nothing in our reach. The field is wide, and open for discovery; but, alas! it is but slowly cultivated.

*Food.* This should be taken cold. Care should be taken to choose articles which are least stimulating, rather than those which might be thought more easily digested. The farinaceous kinds, without milk and cream, or fresh butter, afford, as I think, the best. Rice, stale wheat bread, or mush, or

small hominy, are the articles, I would prefer. Let it be recollected, that in these cases there is no possibility of avoiding the use of food. The disease is too chronic. Every physician will agree, that the water and gum regimen, of Broussais, has been carried too far, in many cases. We must not forget, that our patients must live ; and that the replenishment of the waste of nature, is one of the conditions of life. But to obtain nutrition through the action of an inflamed stomach, is often a difficult, a painful, or an impracticable matter. I advise, in these cases, the use of food as seldom as possible. Yet twice a day would seem to answer better than less frequently. But this rule must be varied to suit the experience of the patient. I have had one under my direction who passed the day in comfort, except from a tormenting hunger, by taking only one meal, a tolerable fair one, in each twenty-four hours. This meal was taken near twelve o'clock, M. Every attempt to take supper or breakfast, was punished with great excitement, fever, and prostration, for at least one day.

---

### DYSPEPSIA—INDIGESTION.

What system shall I adopt—what books shall I study—what shall I say, or what forbear on this eternal theme? There can be no doubt that in civilized nations, it is by far the most common of all diseases. The variety of its symptoms, its wide spread sympathies, and concomitant disorders, have distracted the nosologist, misled the theorist, and humbled the ablest of its investigators. But we have arrived at the age of "*matter of fact.*" Dyspepsia is beginning to be investigated. Some important facts with regard to it, are known—the remedies for it, are more reasonable, and I have no doubt far more successful, than those formerly used.

#### CAUSES.

It will not be thought strange, that this is the most common of diseases, when it is considered, that whatever is used for the support of the body, is first thrown into the stomach. That whether it be food or drink, with the exception of water, it is to be prepared, or digested in the stomach, before it can be admitted into the system. That this viscus must bear the excesses of gluttony and intemperance—the hardships of pover-

ty, and the ignorance of cooks, and, shall I say of physicians ? Nor will the universality of this complaint, be thought the less reasonable, when we consider the variety of articles thrown into the stomach as food. The stomachs of other animals have their appropriate food—the lower tribes being confined to a single article ; but widening in its range as it rises to man, he eats every thing ; he is called omnivorous. But not content with the high privilege of eating all kinds of food, he mixes many articles into the most discordant dishes ; and these he eats with an excess provoked by every artificial stimulant, he has had power to obtain or invent. Is it strange that his stomach is diseased by this outrageous treatment ?

Excess in eating and drinking, I have no doubt, is the most common cause of indigestion. The stomach is taxed beyond its powers. With a peculiar appetency—shall I say instinct, it refuses to digest more than is needed, and is disordered by the excess. This excess applies as well to water as to food. I think I have seen excessive draughts of water, produce the worst consequences, when taken on excessive meals. The evil is greatly aggravated by the habit, now too common, of eating very little except at a single meal. The stomach should not be required to digest food for a whole day at one time. It is unreasonable, and I have witnessed the ill effects of it. Starvation, by a well known law of animated beings, produces the same state of things with excess in eating. Excess destroys the power of digestion by overtaxing it ; starving destroys it, by giving it nothing to do. What power can we preserve without exercising it ?

Unwholesome food is a common cause of indigestion. Putrid meat, or unsound bread, or vegetables, will soon shew indigestible qualities ; and if the use of them is persisted in, disorder the stomach. There are many articles of food naturally very hard of digestion, and taken at our peril. Cheese, dried or smoked fish, and many succulent vegetables in common use, may be mentioned as examples. Tea and coffee have not escaped this censure ; and pastry of all kinds, has been placed under the ban. But I confess I have thought most of these articles were more blameable for causing excessive eating, than for their own ill qualities.

No organ of the body has wider connexions, or closer sympathies with other organs, than the stomach. With the skin, it harmonizes in a wonderful manner. Some of its diseases seem to be thrown off on the skin ; and a checked perspiration often produces an attack of dyspepsia. With the bowels



its connexion is evident—indigestion is often produced by eostiveness. The liver also has stood for the greatest responsibility to dyspeptic patients. It is losing some of its pre-eminence in this regard, since the days of Abernethy. But I think the regard to it, is becoming too little. The stomach can hardly perform its office if it is not duly supported by the liver. I might go on with these sympathising organs, but I will not. The discussion seems to me unprofitable. We can seldom tell the primary affection in these cases. We charge a disorder of the kidneys to dyspepsia: do we know which organ, the stomach or kidneys, has caused the disease?

The power of the mind over the stomach, is a fact long ago noticed. A brooding melancholy belongs to indigestion; but it is not always easy to determine whether they are mutual disorders, or one dependant on the other—whether the brain or the stomach, or both, are in fault. That the disease under consideration, may arise from affections of the mind, is rendered probable from the often observed fact, that the appetite is in a moment destroyed by hearing bad news, or by any intense mental excitement.

The habitual use of cathartic medicines, is, I have no doubt, a fruitful source of dyspepsia. I have myself seen many cases that, after investigation, I felt authorised to charge to this cause.

Independent of all these causes, there are unquestionably many persons who, from constitutional predisposition, become dyspeptic. There are very few persons who have not, at some time, experienced some of the inconveniences of indigestion. The child a day old, whose only food is its mother's milk, is frequently affected with a violent dyspepsia in the form of colic. I have seen these cases attended with cold extremities, paleness and flatulence, in the same manner with grown persons. These symptoms could hardly depend on the unwholesome quality of the mother's milk, to which they are commonly charged. In other cases, the child rejects its mother's milk from the first, and has fever and all the symptoms of inflamed stomach. These children, when they arrive at a maturer age, are still dyspeptic. They are born with defective digestive powers, and must live in pain and suffering, or regulate with great exactness, their diet and drink. Several cases now occur to my mind, confirming these views. Dyspepsia is, then, sometimes an inherent disease. The physician has in these cases, a field for his skill. He may offer remedies, and suggest regimen, that will greatly alleviate the sufferings; but he

is not to expect his patient to rise to a vigor of digestive power, not granted him by nature. When food is received into the healthy stomach, a fluid exhales by drops from its internal surface, in sufficient quantity for its digestion. This fluid is the gastric juice, whose properties are, with all that chemistry has accomplished, but illy understood. It is said to be, in every instance, acid, and this acid principally the muriatic ; but every attempt to procure from other sources than the secretion of the stomach, a fluid with the properties of the gastric juice, has signally failed. This fluid, whether within, or out of the stomach, has the property of reducing food to a semi-fluid state ; and this is the act of digestion. In this state, the food is called chyme ; and is passed out of the stomach into the duodenum, or first small intestine, to undergo other, and equally important changes. The gastric juice does not collect gradually in the stomach, producing by its presence the sensation of hunger, as was once thought. Its collection around the food in the stomach, more resembles the flow of saliva into the mouth, when irritating substances, such as tobacco, are taken into it. The muscular contractions of the stomach, give to the food contained in it, the variety of exposure necessary to bring all its particles in contact with the gastric juice, that its digestion may be complete. It is not known whether indigestion arises from a defect in the quantity, or a fault in the quality of the gastric juice. But it is certain, that when solid food properly masticated, is introduced into the stomach, it is there reduced to chyle, of which it does not contain a particle in its state of original organization. When it is defectively masticated, and left with solid portions in it, the digestion is slower, but still is accomplished in the end. When a portion is digested, and there remains a portion in unmasticated pieces, these remain in the stomach till their digestion is effected. When a substance is totally indigestible, or from its quantity is incapable of being digested, it is passed in this state out of the stomach, into the intestine. These facts were dimly seen, and variously guessed at, till in the year 1833, when Doctor Beaumont published the experiments he had made on the subject of digestion. Fortune had placed under his care, a healthy man, who had recovered from a gunshot wound which had laid open the stomach, and left an opening which never closed. Into this opening, substances might be put, and withdrawn at pleasure ; through it the operations of the stomach could be seen, and investigated in a manner never before witnessed. The observations which were thus made, through a

series of years, are a great gift to the medical profession ; and have put into our possession a remarkable collection of facts not otherwise obtainable.

The changes wrought on fluid aliments, while in the stomach, are not so obvious. Water, ardent spirit, and some others, seem to pass through the stomach unchanged, and in a very short time. Soups, especially animal, are detained as long as solids. The time in which food is usually digested, is from two to six hours ; the longest time being sufficient for the digestion of the hardest tendinous portions of food.

#### SYMPTOMS OF INDIGESTION.

The lowest form of dyspepsia is made manifest by *cardialgia*, or heartburn—a sensation of burning pain at the pit of the stomach, with eructations of acid into the throat or mouth, producing an acid taste and scalding sensation for several hours, or till the food in the stomach, which has given rise to it, has passed into the bowels. There are few persons who are blessed with a stomach so powerful, as not to have been, at some time, thrown into this degree of indigestion. Flatulence, debility, and sluggishness are its common attendants. These symptoms commonly occur after eating indigestible food, or an inordinate meal of food to which no valid objection can be made. They are renewed, from time to time, according to the progress of the disease.

But this low degree of dyspepsia, does not always manifest itself by the same symptoms. The stomach is sometimes oppressed with acid, which produces no heartburn, but in other respects the same symptoms, except the eructations. I have met with many, who aver that they are not sensible of acid on the stomach, and yet, on throwing up its contents, find them intolerably acid.

On a little investigation, it will commonly be found, that these symptoms have been preceded by others tolerably well marked. These are cold extremities, paleness, debility, sluggishness, flatulence, and costiveness. These, with a desponding mind, and irritable, and impatient temper, might stand for hypochondriasis, and do many times exist independent of dyspepsia. But they oftener so run into and combine with that disease, that they cannot be considered separately.

In other cases, the stomach, instead of digesting its food, rejects, or throws it off, by eructations or vomiting. Frequently the food, taken half an hour before with keen appetite, is belieh-

ed up, mouthful by mouthful, unchanged in its taste, or only altered by becoming a little sweeter than it was when swallowed. The next meal perhaps of the same patient, will be ejected in the same way, but so acid as to scald the throat, and produce all the symptoms of a violent heartburn. All this occurs with very little nausea; and when from an aggravation of the disease, full vomiting takes place, the patient will still tell you he has no sickness at the stomach.

In the same class of moderate dyspepsia, I place *pyrosis*, a disorder which from its striking symptom—a discharge of large quantities of transparent glairy fluid from the stomach, has attracted a great deal of attention. This form of dyspepsia very often presents itself in high latitudes, especially amongst the poor who are badly clothed and worse fed. It is so rare in this region that I recollect to have met with it only twice, and neither case proved, in the least degree obstinate or untractable.

Such are the Protean shapes in which this disorder presents itself, even in its first stage, I have no thought that I have described the half of its symptoms; but in the complicated forms in which it appears, at a later stage, the attempt to follow it may well be considered vain. It is our duty however to proceed.

Before the patient is aware of it, great tenderness of the epigastrium has taken place. Doctor Philip, I think, first noticed its occurring nearly over the lower orifice of the stomach, extending along the margin of the false ribs. I have examined it in cases in which, although the tenderness was great, it did not extend over a surface larger than half a dollar. Soon, however, it becomes more extended, and there occurs a considerable enlargement along the margin of the false ribs, on the right side.

About the same time, aphthous ulcers appear about the mouth, commonly on the inside of the lips opposite the teeth, producing considerable irritation and pain. The same kind of ulceration, we are assured by Doctor Beaumont's observations, presents itself, at the same time, on the mucous surface of the stomach.

Pain in the stomach is the next symptom we shall notice. This presents itself under more forms, and different aspects, than any other symptom. It is sometimes constant, but not violent, producing nearly all the time a sense of weight and fullness of the stomach. Food, sometimes of the most indigestible kind, is sought and taken, and for a time seems to af-



ford relief. In other cases the stomach is violently pained, after eating, and not relieved till the offending substance is thrown up. Sometimes the matters ejected are very acrid. The pain in other cases, not less violent, seems not to produce cramp or vomiting, but extends through adjoining viscera, especially the liver. In other instances, the head seems to participate in the disorders of the stomach, in a wonderful degree. I have often given a few grains of ipecac to cause an evacuation of the stomach, and found instant relief of headache, from its operation.

The pain which exists, from inflammation, ulceration, or cancer of the stomach, will, almost in every instance, be attended with dyspepsia; but may obviously exist independent of that state of the stomach. The pain in these cases points out with some accuracy, the seat of the complaint; but it avails us very little to know this. The inflammation is not known to exist in any great variety of form or appearance, and the remedies hardly vary, in different cases. Even cancer, if it exists, calls for nothing different from the ulcerations, thought to differ altogether in kind.

In whatever form it may appear, dyspepsia is apt to be a disease of paroxysms, and intervals. These commonly depend on the action of the food, or rather of the stomach on the food taken into it. But there are cases in which the absence of food produces the paroxysm, and others in which it seems independent of the presence or absence of food in the stomach.

In any of the forms under which it has been described, dyspepsia may become an intolerable disease. Deprived of nutrition, the powers of the body fail; other organs become diseased, and the patient sinks, under accumulated affliction. But post mortem examinations have proved, that the ulceration or inflammation of the stomach, indicated by the symptoms, are not always present. Death has been brought on by this disease, when the examination made for the cause proved entirely fruitless. The stomach and intestinal canal appeared entirely sound, disproving the theory of Broussais, that this disease was but a chronic inflammation of the stomach.

The various disorders, arising from dyspepsia, in distant organs, will not be considered here. It would fill a volume to treat of them; and when it is attempted, every inch of ground is disputed. Authors have not scrupled, to charge to the imperfect performance of its office by the stomach, many diseases of the liver, spleen, kidneys, intestines and even the brain. It matters not whether they are always right, or not. Organic

diseases of these parts, require a treatment of their own, whether they may have arisen from dyspepsia or not. If dyspepsia be present, or if, according to Doctor Philip, it has given way to a disease it produced, the course of treatment is the same. The remedy must be, for the relief of the present malady ; and if its relief shall be followed by a return of the dyspepsia, this, in its turn, is to be properly treated.

#### TREATMENT OF DYSPEPSIA.

The mildest form of dyspepsia, in which a slight oppression at the stomach, with flatulence only is felt, is seldom the object of medical treatment. In healthy persons, it requires only the removal of the cause, over eating. It is hardly going too far, to say, that few persons are entirely guiltless on this head. Very few who have from this cause, felt no greater evil than a little flatulence and oppression at the stomach, will heed the counsel of the physician, and eat with more moderation. But the victims of temerity on this head, are too many, to be thought of with indifference. It is in this mild stage, that a little prudence is most important. To the strong and powerful, who live in total disregard of all our admonitions in regard to temperance in eating, let the maxim of an Italian writer, who, at the age of ninety years, wrote a book on temperance, be often repeated, "*if you would live to eat a great deal, eat but little at one time.*" This maxim, important to all men, is vital to those who, from original weakness or acquired predisposition to dyspepsia, are reminded of their frailty, by flatulence after every meal. Such a person should, if he has not done so, adopt a regimen suited to a dyspeptic. He should carefully note the effect of over eating, and the articles of food he may have taken, and, with firm resolution, cleave to that which he finds best. His habits should also conform to his disorder—his exercise should be in the open air, and his food spare in comparison with his exercise.

But we pass on to a more serious form of dyspepsia. In this, I am considering the patient as laboring under paroxysms of painful heartburn, with its concomitant symptoms. The disease has continued for some time ; but with very little tenderness over the stomach, and no fever. The mouth, in the morning, will probably be dry, and the tongue coated with a white, or even a yellowish fur or mucus. In such a case—

Costiveness is to be removed by the following pill : Take of aloes, 60 grains—Gamboge, 10 grains ; rub together,

and add syrup or water—make it into 16 pills. Let two be taken at bed time; and, if no movement of the bowels is brought on by the next morning, take one more. Continue them, from day to day, to produce at most, a daily evacuation by the bowels. If one pill a day, or one in two or three days, shall prove sufficient, it will be so much the better. If, from tenderness of the rectum, or a general irritability of the system, these pills produce burning stools or fever, desist from the use of them. If the costiveness returns, give the following: Take of powdered rhubarb, 60 grains—powdered ipecac, 20 grains; mix with water, and divide into 24 pills. These pills are to be taken, one by one, to produce the desired effect, a daily evacuation. If they produce vomiting, compound another parcel, with only ten grains of ipecac. These pills may be used for any length of time, so far as my experience goes.

For the same purpose—the removal of costiveness—injections have been sometimes found sufficient. The mildest should be first tried; but if these prove ineffectual, soap-suds, solution of salt, or other acrid articles may be tried. If the milder kinds prove effectual, they are to be preferred to all other remedies.

The presence of superabundant acid in the stomach, manifested by the burning pain and acid eructations, calls for the use of such alkalies and absorbent remedies, as experience has warranted us in using. Not the least useful of these, is a weak ley made by throwing a little ashes into a tumbler of water. If the ashes are taken hot from the fire, the ley becomes transparent in a few minutes, and may be drunk, a mouthful every four or five minutes, till relief is obtained. Doctor Physic, I recollect in one of his lectures, recommended this preparation of ashes, to be stirred and drunk in an unsettled state.

Prepared chalk is perhaps the least exceptionable remedy of this kind. A piece as large as an almond is commonly enough, and may be repeated according to circumstances.

Magnesia, especially when calcined, combines readily with the acid in the stomach, forming a neutral salt which is mildly cathartic. It should not be too frequently resorted to—its action on the bowels, being qualified to lessen their secretions and produce costiveness in the end.

Having by these means, provided for a regular, if not a healthy action of the bowels, we are next to look to the remedies calculated to give tone or strength to the digestive powers. Doctor Philip, whose very able work was one of the first lights that broke through the gloom of this subject, recom-

mends, if I remember correctly, a tea spoonful of brandy or other good spirit, to be taken with a little water at meals, especially dinner. This small quantity, which is by no means to be much increased, affords the most powerful aid to the digestive powers of the stomach. There is some responsibility in recommending this medicine, regarded so dangerous to the cause of temperance ; but what is better—what is equal to it ?

When the above was written, I had not for many years looked into Doctor Philip's essay. I find that my memory was not perfect in regard to his maxim. The advice as I have offered it, is the result of my own experience, and I have no doubt of its correctness. Nor does it differ so widely from his, as to render the matter of much consequence, except for the unpopularity of alcohol in these days of temperance lectures. That able physician, whose work on indigestion ought to be reprinted and extensively circulated, came to the conclusion, that distilled spirit, taken in small quantity with water alone, promotes digestion more than any thing else ; and especially more than wine, or any other fermented liquor. So important is this consideration, that he advised its use in certain cases, although in its ultimate effects, he regards it as the worst of all stimulants. That he, with his opinion of its ultimate effect, consented to use it at all, is evidence of the great difficulty of finding a substitute for it. I confess that I have found nothing else equal to it. Nor do I think Doctor Philip is sustained by facts, in his preference of fermented over distilled liquors. The abuses of distilled liquors may be most destructive, because of their greater concentration ; but the Washingtonians are right in refusing either as a "*beverage*."

Tonic medicines, of which I think gentian the best, are also to be given here. The extract of gentian is a very simple, and valuable prescription. Make it into pills with powdered ginger, each pill of the common size—about four grains. From three to six a day, may be given for weeks, if necessary. The compound tincture of gentian is also a good remedy. Give a tea spoonful—one sixth of an ounce—in water before breakfast, and before dinner. The dose should not be much increased.

Mineral tonics are to be resorted to, if the patient is pale, and much affected with cold extremities. The preparations of iron are best. The precipitated carbonate may be made into pills—put sixty grains into sixteen pills—and give four to six a day. The sulphate of iron, common copperas, is often a better remedy, but is an inconvenient preparation. By drying it over the fire, in an iron vessel, till it becomes a white pow-



der, it may, by the aid of turpentine, be made into pills. They should be of the common size, and given one or two at a time, twice a day.

I think it unnecessary to extend this list of remedies. Let it be borne in mind, that they are applicable to cases unattended with fever, or organic disease. Many times they will be found inapplicable to the case—the gentian will “rise on the stomach,” or be tasted in eructations—the brandy will produce flushing, perhaps palpitation at the heart—the aloes will inflame the bowels—the ipecac will prove emetic, in spite of reducing its quantity. Cease to give remedies producing such manifest inconvenience. Most of these evils arise from administering these remedies when there is a lurking inflammation, or hidden ulceration present. No one can always foresee these evils, and there is consolation in knowing, that the harm of the experiment can hardly be much, while the information afforded by the result, may be very important.

*Food and drink.* I have said that dyspepsia is more frequently produced by improper food, excess in eating, and improper or excessive drink, than by any thing else; and must therefore, in all consistency, insist on the strictest regulated diet for its removal. The variety of this disease of which I am treating, admits of the use of nutritious food. It should be limited in quantity—the patient should make a fair trial, by daily reductions of food, whether there is not an amount which he can digest without producing heartburn; or feeling it like an intolerable load on the stomach. If he can find this amount, a great point is gained. His cure is almost certain; for time, with a cautious variation, and gradual increase of his food, in connexion with the remedies advised, will probably afford entire relief. But this trial should be made with articles best suited to the case, and easiest of digestion.

Farinaceous grains form, in my opinion, the food easiest of digestion. The best mode of preparation is unquestionably by boiling; for this divides the particles most, and enables the gastric juice to dissolve each particle most readily. They should not be taken combined with too much water; for this dilutes the gastric juice too much, hominy is better than gruel. Salt is the only condiment which should be added, for every other that I know, is either very indigestible, or very inflaming. This rule applies with great force, to Indian corn and rice. Flour is with so much coaxing, prepared into bread of so many kinds, that we have less experience of its effects when boiled. I believe strongly, however, in boiling. These grains are

probably the best of all articles of food—they are more nutritious, and of easier digestion than any other grain. These are important points, and I cannot give better evidence of this, than by recurring to my own experience. When I was a young practitioner, I took up or adopted the opinion, that animal food containing in itself the elements of nutrition already digested and animalized, would require less change in the stomach, to fit it for the purposes of life, and must, therefore, be easy of digestion. On this opinion I proceeded, and gave animal food in many cases where it proved indigestible, and did harm. Thinking it was too stimulating, I lessened the quantity; but it would not all do. I was compelled to see, that the bread stuffs above mentioned, were more easily digested than meat. And now having lost one theory, I have adopted another. Man draws his nutrition from every variety of food. He can digest a succulent vegetable, a farinaceous grain, or the flesh of an animal. His gastric juice is fitted for all these, but least perfectly for the two extremes—the grain containing the elements of both the animal and vegetable kingdoms, is exactly the thing, and easiest digested. The dog, which is carnivorous, will digest the meat with most ease; but the cow will digest the vegetable easiest, because she is herbivorous.

I have said that the grains most used by civilized men—wheat, maize, and rice, are the easiest articles of digestion; and that they are most easily digested when prepared by boiling. This is pre-eminently so with regard to rice, which by the common consent of all nations, is cooked in almost no other way. It is best when the water in which it is boiled is nearly all evaporated, leaving the rice nearly dry.

Wheat flour is made into bread by fermentation and baking, by which its substance is divided into cells. These cells are openings into which the gastric juice enters, and performs its office of digestion. If the bread is eaten when first baked, it is indigestible; because the moisture of the mass causes the cells to close under the process of mastication. It is therefore best stale, or dried by letting it remain in the open air, a day at least, before it is eaten. In this state, it is eaten without the particles uniting so as to prevent the action of the gastric juice. The same end is accomplished by combining the flour by hard kneading, with as little water as possible, into biscuit or crackers. Baked in this state, the gluten of the flour does not unite into paste; and the bread, comminuted by the teeth, is swallowed in a state to be easily penetrated by the gastric juice. Unbolted flour is used to accomplish the

same end. The bran is wholly indigestible, and serves only the mechanical purpose of keeping the particles of flour separated. The increase of volume it produces, is thought to operate beneficially in causing a greater flow of gastric juice from the stomach, and a stronger peristaltic motion of the bowels, thus at the same time favoring digestion, and obviating costiveness. Such are the forms or states of wheat flour, best calculated for food, for persons with defective digestive powers : first, boiled into thick gruel or paste—secondly, baked into bread containing the bran—thirdly, in crackers or ship-bread, and lastly, into fermented, or light bread, eaten long after it is baked.

Since writing the above, I have witnessed the superiority of boiled wheat, as an article of food in dyspepsia. This old dish is worthy of being again introduced on our tables. Take clean wheat and boil it, till thoroughly done. Season and eat it as if it were rice. It is agreeable to the taste, and entitled to high confidence.

Maize or Indian corn, (it should be white,) is more oily, and less digestible than either wheat or rice. The best mode of preparing it is the most simple ; grind it very coarsely, divest it of its bran and finest meal, and boil till thoroughly done. This is small hominy, an article more grateful to the appetites of many than rice, and possessing a tendency to remove costiveness, is often more beneficial than most other food. To make bread, it should be ground finer, but not too fine. Sift from it the bran, and add water, with but little kneading—bake in an oven, or in thin cakes on a griddle. The whole process requires less than half an hour. This, to persons accustomed to it, is the most grateful of all bread—field laborers would not exchange it for any other. It finds its place in the regimen of the dyspeptic, not because it is more easily digested than other bread, but because, to torpid bowels, it is a decided stimulant ; and in the absence of fever and inflammation it is, by many patients, easily digested. I have thought it unnecessary to mention several other grains, which are used as food in civilized countries—rye, buckwheat, oats, and barley, may be made into bread ; and batter cakes of rye or buckwheat are, to many persons, agreeable. They are to be cautiously used by dyspeptic persons.

To all these articles of bread stuff, I have said that salt is the only necessary addition. But in using them as food, the question of what may be taken with them, is constantly presenting itself. Close attention to the effects of these additions,

should be paid by the dyspeptic and his physician. They should be taken in moderation at all times, but particularly so at the commencement of the treatment. Milk is far the best as a general rule; but there are not wanting individuals who cannot use it because of its offensiveness to their taste; and there are others to whom it is manifestly unfriendly. These peculiarities cannot be controlled—the article must be abandoned in such cases.

*Animal food* is never allowable, unless in conjunction with the breadstuffs above mentioned. The patient who can eat bread safely, may next add to it a little meat, or what is nearly equivalent, butter. This last article, when fresh, is by far the best and lightest animal food. It should not be heated, or, at most, it should be only softened by heat. It is unfit for frying, because of its readiness to become rancid by heat. Salted butter is also a good article, but it must be free from rancidity. Authorities, I apprehend, will be strong against my advice for the use of butter. Let it be borne in mind, that I advise only the butter recently made, or perfectly preserved from rancidity. No article is worse than rancid oil; and rancid butter is not much better. Let it be tried in its freshest and sweetest state. It is the only addition which the appetite demands, to the bread, rice, or hominy, I have above recommended. If it agrees with the stomach, the patient has in it the equivalent of animal food.

Great pains have been taken, to discover the most digestible animal food. The tables published, point out the least stimulating, as of easiest digestion. Small birds, and domestic fowls, especially those with white meat, are thought the best: next, venison, lamb, beef, and pork in their order. These are advised to be taken fresh. To this rule there are many exceptions; and I am not certain that it is not altogether wrong. The flesh of birds and other animals, is made tender by letting it remain unsalted, for a time after being killed. What length of time this may require, it is difficult to decide, because it is shorter according to the heat of the weather. Twelve hours may answer for birds in summer, and a longer time for beef. If it becomes tainted, its digestibility is lessened in due proportion. Salt, in sufficient quantity to hinder this, should be added at the proper time. The sooner it is cooked after salting the better. This food and these rules may be varied to suit cases.

I have expressed my doubts of the easier digestibility of fresh, than of salted provisions. I have no doubt of the fact,



that healthy persons are better fed on salted, than on fresh meats. Doctor Rush's example of the soldier of the Virginia regiment, who threw away "his ration of choice fresh beef, and gave seven and six pence for a pound of salt meat," is but an example of what I have many times witnessed in a less degree. Who that has fed slaves, the laborers of the South, has not witnessed their preference of a ration of salt bacon, over one of "choice fresh beef?" Who that has issued rations to an army, has not made the same observation? I have not only seen this, but witnessed the same fact in my own family; and I have also witnessed the more important fact, that a higher degree of health prevails where salted provisions are chiefly, or altogether used. It is only those who take too little exercise, who find no appetite for salted meats.

The question between fresh and salted meats, is too important to be dropped here. If meat, preserved by salt, is better for the healthy stomach, it is also better for one whose stomach, not yet inflamed, is in the state to digest only the food easiest assimilated. This is the state we are supposing our patient to be in. Food in his stomach, readily undergoes changes unfavorable to its conversion into chyle. I think I am not mistaken in saying, that I have seen hundreds of persons rendered dyspeptic, with heartburn, diarrhœa, flatulence, and pain in the stomach and bowels, from eating a variety of fresh provisions; and who, on being put on an accustomed regimen of dry and salted provisions, were immediately restored to perfect health.

These facts have had so much weight on my mind, that I have not scrupled to give my patients salted meats, as soon as they were in a state to use any animal food. I have allowed it to the anxious desires of many whose first wish, on the decline of an acute disease, was a piece of cold ham, or of dried venison, or beef, eaten raw. The quantity of these articles, is, of course, to be limited by the judgment of the physician. But if they disagree with the stomach of the dyspeptic, who takes them in moderation, he should delay the use of animal food, till he is better.

Such are the remedies which I have found most useful in dyspepsia, in its earlier stages, and before organic disease and fever have supervened. The same remedies are proper, in many cases, with other and more painful symptoms, than those I have described. Water-brash, or dyspepsia with frequent throwing or belching up of a watery fluid, especially in the morning, is successfully treated with the tonic remedies above

recommended. Spasmodic, or, as they are termed, nervous cases, require also the same remedies. But these painful cases require some remedies, adapted to their peculiar symptoms. The presence of pain, especially if it is spasmodic, or attended with cramp, directs the mind to opium, its great antagonist. In the cases of water-brash attended with pain, it has had most reputation. Acetate of morphine, in doses of one eighth to half a grain, has been given with great success. It has been thought, of itself, to have cured the disease; but I should not advise a reliance on it, to the exclusion of other remedies. I should have equal confidence in laudanum, in doses of from ten to fifty drops, according to the intenseness of the pain. In cases attended with cramp, or spasm, and violent pain in the stomach, laudanum is an important remedy. It is to be given in doses according to the pain, even to a tea spoonful, if necessary. But in many cases, it is essential to rid the stomach of its offending matter, and if warm water in quantity does not effect this, ten or twenty grains of ipecac may be given. The preference given to ipecac in this case, is due to its producing the effect of vomiting, and freeing the stomach of its contents, in spite of the laudanum which may be necessary at the same time.

But the frequent repetition of laudanum, may become a dangerous habit, and there are fortunately other medicines which will answer a valuable purpose, and are often preferable to this remedy. These apply more to cases in which the pain is less intense, but the flatulence, and perhaps despondency is greater. The first of these remedies which I shall mention, is water of ammonia, or what has been long in every one's hand under the appellation of hartshorn. From twenty to sixty drops of this may be taken in water, and repeated in half an hour, if necessary. Compound spirit of lavender, *red lavender*, is also a good remedy, and may be given in the same dose. Essence of peppermint, is, when prepared in the usual way, to be given for the same purpose in the same dose. Assafoetida is a valuable remedy in these cases. From four to ten grains of the gum, or from thirty drops to a tea spoonful of the tincture, may be given, as often as the symptoms require.

These remedies are given in vain, if the patient has not learned the control of himself. He should eat only twice in twenty-four hours, once in the morning, and again at early dinner. The long time between this meal and the next morning's breakfast, is strongly objected to by some. My experience is decidedly in favor of the two meals only; and, in some

cases, these are too many. All agree, that before a second meal is taken, the first should be digested, and passed out of the stomach; but this admits of more than two meals a day; and I have no doubt, many cases will be well treated under an allowance of three meals a day, as nearly as may be—one in each eight hours. But in bad cases, I have found the third meal pernicious.

Another rule is, to eat no more than the stomach will digest; and, by this means, avoid heart burn and its concomitants. Doctor Rush in his lectures, insisted on this rule, and related a case of extraordinary violence, which was cured by giving only a table spoonful of milk at a time, and nothing else. The same rule is still insisted on; and, but for the difficulty of enforcing it, dyspepsia would be shorn of half its force. Physicians should not be surprised at this. The appetite, which at first is altogether wanting, becomes at last morbid, and sometimes ravenous. The fortitude which can, even under the apprehension of severe pain, resist such an appetite, is deserving of great commendation. Fluids should also be taken in moderation. Water, the best of all, often seems to bring on the attack, and I have no doubt is often a powerful cause in producing the disease. Very little if any should be taken during the progress of digestion, or even during meals. This is a great but necessary privation. Let the patient try it and he will find the thirst, which is perhaps very distressing after eating, pass entirely off, after digestion is complete. The benefit of forbearance in such cases is very great.

Exercise has been as much insisted on, as any other remedy for dyspepsia. It is generally advised when the stomach is empty; but Doctor Beaumont came to the conclusion, that gentle exercise, on a full stomach, favors digestion. My own observation is in favor of rest after meals, especially dinner. Dyspeptic persons are uniformly rendered sluggish, or sleepy, by eating. Sleep, for a very short time, and quiet for three or four hours afterwards, gives to the digestive process its greatest force. This is the prudent course after dinner. But before dinner, the exercise should be as great as the strength of the patient will admit. The same may be said as to the evening. The exercise at these times, can hardly be too violent, if it is not continued too long. Travelling is a very defective mode of taking exercise. Many patients are rendered costive, and decidedly worse by travelling. But the rule does not hold in all cases—some are greatly benefited, whether by its good ef-

fect on the mind, by the change in the mode and manner of exercise, or some other cause, is uncertain.

#### TREATMENT OF THE INFLAMMATORY, OR LAST STAGE OF DYSPEPSIA.

No one can tell the exact time at which a case of dyspepsia so changes its character, as to require a decided change of treatment. When from long continued irritation of the stomach and intestinal canal, inflammation, or ulceration has happened, or a state very similar has occurred in distant organs—the liver, lungs, kidneys or others, dyspepsia becomes an inflammatory disease, and is to be treated as such. In this stage, the duodenum, or first intestine, which is so nearly connected with the stomach in its position and office, that it has been termed the second stomach, comes in for its portion of the affliction. This state of common disorder of the stomach and duodenum, will terminate what we have to say in our present chapter.

A very short portion, “twelve fingers breadth,” of the intestine into which the lower orifice of the stomach opens, is called the duodenum. Into this portion, the bile and pancreatic juice enter; and here, by universal consent, the process of preparing the food for its entrance into the living body, is finished. Here the chyle is separated from the chyme, and made ready to be taken up by the lacteals and caused to pass into the blood. The quantity of bile, which flows into the duodenum, is very great; some estimate it at several pounds every day. This fluid and the pancreatic juice here mix with the chyme; and there is good reason to believe, that they are not unfrequently thrown back into the stomach to perform their office there. This was seen, so far as the bile is concerned, by Dr. Beaumont; who found in his numerous investigations, that the stomach contained bile, especially when oily substances were present in it. This inter-communion of the contents of the stomach and duodenum, might well be expected to be attended with an intimate connexion of their diseases. Not a doubt of this is entertained; and I fully believe, that the earliest stages of dyspepsia, often affect the stomach and duodenum in common, and desire that what I may now say in reference to the inflammatory stage of dyspepsia, may be regarded as equally applicable to both these organs.

Recollect that it is the second, or inflammatory stage of dyspepsia, for which we are now to point out the remedies; and



that this stage superadds to common indigestion, tenderness on pressure at the pit of the stomach, fulness, and sometimes swelling along the cartilage of the false ribs, and fever, more or less continued. These symptoms occur under many degrees of mildness or aggravation, and are to be combated with the following remedies.

1st. *Leeches and gum water*.—This celebrated prescription of Broussais, is applicable to the most formidable cases. The leeches are to be applied over the affected organs, on the tenderest points. They may be applied from two to six at a time, and repeated, as circumstances require. I have said nothing of bloodletting, because leeching, the more popular, and now becoming the more common remedy, will answer. But I think bleeding often the more efficient, and convenient remedy. Blood may be drawn by cups, or by the lancet. The gum water is given here, not as medicine, but as food; and I think it no where finds a more appropriate place. If the stomach can digest any thing, it is a little gum Arabic, dissolved in, or rather incorporated with, water. It is probably the easiest action of the digestive organs, by which nutrition can be obtained. I may add, that experience fully sanctions it. How far this course is to be pursued, will depend on the strength of the patient, and the violence of the disease. I think it is easy to carry this process too far. We should remember that the inflammation we are contending with, is ready to subside of itself, so soon as the digestive powers are restored; and that the presence of food, if digested, will not hinder this salutary process. Then continue a regimen so poor as gum water, no longer, than the weakened digestive powers and keen inflammatory symptoms continue.

2. *External stimulants*.—Leeches and gum water have been mentioned, as applicable to the highest inflammatory state of dyspepsia. The irritation of the skin over the affected organs, is applicable to a more moderate, or longer protracted case. Several articles might be used in these cases. Blisters are first, and often best. They should be fully drawn, by allowing them to remain eight hours or more. Let them heal under dressings of mild ointment, or cabbage leaves wilted and applied double. If the symptoms do not yield to a first application, a second should be made without too great loss of time. If the patient is very weak, or objects to blistering, apply tartar emetic ointment, made by rubbing two drachms of tartar emetic into an ounce of simple ointment or lard. Rub this on, once a day, till light pustules are produced on the skin, and

continue the application till the desired excitement is produced. I believe the whole benefit of exciting applications to the skin, may be obtained by these applications; but there is another, which seems in some cases to exert an action on deep seated diseases, not equalled by other remedies. This is iodine in tincture—made by dissolving forty grains of iodine in an ounce of alcohol. Let this be applied with a feather daily, till blistering is effected. This remedy is so powerful in certain affections of the larger glands, that a better could scarcely be desired; but, in dyspepsia, I cannot say that I have found it superior to blistering, with the common ointment of Spanish flies. A trial may be made with it, when other remedies fail.

3. *Calomel*—Costiveness, the common attendant of dyspepsia, will of course demand the attention of the physician, in the inflammatory stage. It is to be removed or prevented by the mildest means; but it is not in reference to this symptom, that I now introduce calomel. The uses of this remedy in dyspepsia, are to be placed on higher ground—it is essential for the removal of some of the most fatal affections connected with this malady; and justice cannot be done to patients who refuse to take it, or are denied its use. The exact circumstances which demand the use of calomel, are not easily detected. I use it, without scruple, in all cases in which the inflammatory symptoms prevail; and, in many instances where they are scarcely to be noticed, I introduce it into the purgative remedies, it may be necessary to use. In a great majority of cases, it produces its accustomed mild cathartic effect, and especially that discharge of thick bile so peculiar to this remedy, and so grateful in its effect, of relieving a sense of fullness and oppression in the region of the liver. As a general rule, I prefer not combining it with other remedies, but give five grains of calomel, or ten of blue mass, at bed time. This dose should not be followed by any cathartic, if it produces one or two bilious passages in twelve hours; and should not be repeated often enough to endanger salivation, unless the case requires it.

But there are many cases of dyspepsia, in which the bowels seem to reject calomel. I have seen a single grain operate for two or three days; producing wasting, watery discharges, and great prostration. These cases are the most inflammatory, and, have no doubt had, a powerful effect in causing the fear of calomel which cannot escape notice, in the highest circles of practice. Shall we give calomel in such a case? I say unequivocally, yes! Doctor Philip, I think, recommends half

grain doses with opium, once or twice a day, till a very slight salivation is brought on. I advise this so far as the bowels will retain it, with the addition of friction with mercurial ointment, till the same end, a gentle salivation, is attained. This has, under my treatment, been the signal of recovery. My mind recurs, with vivid recollection, to a case of this kind. A gentleman of good constitution, but over-fond of eating, had labored under dyspepsia for many years, and had, for two summers visited the most famous watering places. Returning from his last trip, worse than he set out, he placed himself under my care. I felt great embarrassment, from knowing that he had been advised by the most experienced practitioners. He was greatly emaciated, and sallow; and a grain of calomel which I gave him, operated excessively, as he predicted. I drew about four ounces of blood from his arm. The blue serum which arose on the top, and remained fluid, did not lessen the doubt of the course I should take. I rubbed half an ounce of mercurial ointment over his abdomen, especially about the region of the liver and stomach. The skin was so irritated as to forbid the application again on the same surface. A day or two satisfied me that my patient was better. I repeated the bleeding in a little larger quantity, and again applied the ointment, but to other parts of the body. These remedies were persisted in for a month, before a slight salivation was brought on. But he was evidently improving. He lost blood twice a week. How could I fear the lancet, having so lately heard the eloquence of Doctor Rush in its favor? The salivation, though very slight, seemed to restore every function. The blood coagulated more firmly, and presented the buff coat of inflammation. He seemed to rise under the evacuation. He recovered in three months, having been bled more than twenty times, and used in frictions, several pounds of mercurial ointment. This case had lasted long, and was complicated, I thought at the time, with disease of the liver. But my patient denied suffering the slightest pain or soreness, in the region of the liver, till after he was salivated—then a slight soreness in that region occurred. He recovered perfectly, lived many years, and never again required medical treatment for dyspepsia.

I could relate other cases, in which calomel seemed to act in this equivocal way; and yet, when properly used, proved the true remedy. In these cases, the effect of the remedy as a cathartic was hurtful; because, from inflammation, or ulceration of the stomach, or some part of the bowels, its irritating qualities, or more probably, the mere motion of the bowels, could

not well be endured. The relief was not obtained, till a slight salivation was brought on.

4. *Nitre and tartar emetic.*—Common nitre—nitrate of potash, is often very useful in the inflammatory stage of dyspepsia. There can be no doubt, that this article, when given in excess, is destructive of the digestive powers. This admonishes us to limit its use to its proper office, of reducing inflammation. To this end, I advise it in doses of from five to ten grains, from two to six times, in twenty-four hours. It should be given when there is much tenderness of the stomach on pressure, and especially to allay thirst. In cases in the highest degree inflammatory, tartar emetic may be combined with the nitre. Take two drachms of nitre, and two grains of tartar emetic, and dissolve in half a pint of water. Give from two to four tea spoonsful, three times a day, lessening the dose, and choosing the most distant times from meals to administer it, if the remedy produces sickness at the stomach.

5. *Food*—I have mentioned gum water, in conjunction with leeches, not that I think gum the only allowable food. Far from this; I think the cases are rare, in which it will be necessary to make this the only food. But if it is relied on for this purpose, some attention is necessary to the quantity of the gum taken, and the time at which it is used. Like all food, it should be divided into meals; and, in this case, the water given with it should be nearly all that is allowed the patient. But it cannot be forced on patients for too great a length of time, because it will become offensive to the appetite.

Rice has all the advantages of gum—is about as easily digested, yields more nutrition, and admits of more variety in the mode of preparation. It is therefore the best food in dyspepsia.

It can hardly be requisite to mention the variety of mild articles of easy digestion, which might be properly allowed to patients, under treatment for this tedious complaint. It should be borne in mind, that in this inflammatory state of dyspepsia, the object is to furnish articles of easy digestion, and of moderate degree of nutritive properties. Fruits, if not too acid, are frequently as beneficial as they are grateful. They can be tried without danger, as their ill effects, if they produce any, are obvious in a short time.

I have said nothing of the treatment of ulceration, or schirrus of the stomach or duodenum. We have seen, that the presence of these disorders cannot always be known. They produce, it is true, great irritation of the stomach, with vomit-



ing, and sometimes diarrhœa. We have no specific remedies for these diseases. What better can we do, than to use the above mild and soothing treatment? Nothing that I know of! Perhaps we hope relief from our remedies, and hold out false hopes to our patients. Would it be better at first to know the awful truths which time will soon enough disclose?

---

### COLIC.

Every acute pain of the abdomen, which is attended with constipations, and is at intervals greatly aggravated, may be termed colic. This is a wide range, and includes various disorders; but it has been found impracticable to define each by itself, because of the intimate relation they bear one to another, and of the infinite complications they are subject to. Instead, therefore, of following the intricate windings of the nosologists, or the patient and laborious efforts of our cotemporaries, to develop by dissection, every disordered organ—and by chemistry every alteration of the component parts of the fluids or solids involved; we shall be satisfied with the discussion of some of the most common forms of colic; and by pointing out the most rational and successful mode of treating these, enable the student to treat others, bearing the similitude so general in these complaints. For after all that can be attributed to the affections of particular organs, and the acknowledged importance of knowing these special diseases in every case; it must be confessed, that the investigation is more tedious than successful, and the knowledge sought for, not always of much consequence if known. If the skilful treatment of colic, depended upon an intimate knowledge of all the local disorders with which it may be connected, the fate of the sufferers would be deplorable. But I flatter myself that I shall be able to point out a mode of investigating and treating this disease, highly beneficial, if not perfect; and so simple in its details, as to render colic one of the easiest diseases to treat properly. To accomplish this, I shall so divide the subject as to enable the practitioner to prescribe according to the general character of the disease, without overlooking the attendant local disorders. I shall treat of this whole subject under three titles. Simple colic—bilious colic—and painter's colic. To these, all others bear so close an affini-

ty, and require such similarity of treatment, that I think it decidedly best to avoid a wider classification.

#### SIMPLE COLIC.

This disease occurs in persons apparently in perfect health ; but there unquestionably lies, far beyond our scrutiny, a foundation for it, in the temperament or constitution of the patient. Many persons are subject to attacks of it, which cannot be attributed to any known cause. But it may also be produced by improper food, exposure to great vicissitudes of the weather, and other causes. It occurs most frequently in summer, and is epidemic in some tropical countries.

The disease is ushered in by cold extremities, with free discharges of air from the stomach or bowels. These symptoms are followed by pain, most frequently across the abdomen near the navel. The pain may extend to any part of the intestinal canal and its associated organs, especially the liver. Violent spasm or cramp is felt in the bowels and muscles of the abdomen. To the hand laid on the abdomen, every part feels rigid and contracted. Other and more distant parts become involved. The shoulders are sometimes the seat of violent pain—the limbs are drawn up with cramp, and the patient seeks relief by violent pressure on the abdomen with his hands. These symptoms are sometimes considerably protracted. The pains lessen ; but the air, moving with noise in all directions in the bowels, becomes more inconvenient. The peculiarity of these cases, seems to be, the absence of inflammation, tenderness, or fever. But the paroxysm will at last give way—gradually the heat will return to the limbs, the stomach and bowels will cease to discharge air, and the spasm and pain of the bowels will cease. A slight feverish heat will supervene, and soon pass off, for another but indefinite term of imperfect health.

#### TREATMENT.

Before a remedy is given, enquiry should be made as to the cause which has brought on the attack. Has it arisen from exposure to cold, and its effect, a checked perspiration—has the patient hernia, or any disorder of the bladder, kidneys, or liver—is it a disease common in the neighborhood at the time ; and above all, has the patient indulged in too free use of improper diet or drink ? These, and other causes separately or combined, must be taken into consideration before a remedy is offered.

By far the most common cause of these attacks, is the improper indulgence in food too rich, or taken in too great quantity. In such cases, the disease not unfrequently results in cholera morbus, of which more will be said in the proper place. But should no effective vomiting take place, and a violent pain in the stomach be present, with good reason to suppose it is caused by the presence of undigested food, an emetic of fifteen grains of ipecac in a little water, should be administered. If the patient is easily excited to vomiting, a glass or two of warm water may be used instead of a stronger remedy. A free and thorough discharge of the contents of the stomach, should, in this way, be effected. If the pain continues, a stimulant suited to the case may be given. A large class of remedies for this purpose is in the reach of every one. Essential oils of peppermint, cinnamon, lavender, and many others, may be mentioned. Tinctures of these, prepared by solution in alcohol, are sold under the name of spirits, or essences, and may be given for the relief of pain and expulsion of air from the stomach, in these cases. I recommend the following, or either of them. Compound spirit of lavender may be given in doses of from thirty drops to a tea spoonful, repeated in half an hour, if necessary. Essence of peppermint in doses of twenty to sixty drops. These, and other similar remedies, may be given when the disease is very slight, or in its forming state. They are sometimes sufficient to remove the pain, and I have no doubt, in many cases, to ward off the attack. But if the pain becomes violent, let no time be lost in administering opium in some form. Laudanum in doses of from thirty to one hundred drops, may be given, and if no relief is felt, in an hour or two, repeated. This remedy, against which there is great prejudice in the minds of many, is our great reliance for relief in this excruciating disorder. Let no fear of ill consequences hinder its administration. Do not readily credit the belief which the patient may happen to entertain, that opium disagrees with his stomach. I have, in more than thirty years, met with but one case in which opium seemed to be incompatible with the constitution, or temperament of the patient. In the mean time, I have administered it successfully to hundreds, who from apprehension of this kind, took it with fear and trembling. The pain, or rather the agony, which thousands now daily suffer, from the want or too timid use of this invaluable remedy, can hardly be conceived. I am far from underrating the ills of the habitual use of opium. They are fearful, but colic is not one of them. I have never

treated a case of this disease in an opium eater. They are not subject to it. I have perhaps said too much in favor of this remedy. If I have, it has been caused by the conviction, that in the hands of the best practising physicians of the day, not half the use is made of it that ought to be ; and I have no hesitation in saying, that the patient who is suffered in this disease, to writhe in agony from hour to hour, and not allowed the benefit of opium in some form, cannot discharge his physician too soon. Another remedy against which there is a better founded prejudice, is alcohol in the form of good spirit. Great is the cause for regret that this article ever found its way out of the laboratory of the chemist, or the custody of the druggist and the physician. Like other blessings of Providence, its cheapness has led to its great abuse ; but I trust the habitual neglect of its common use, will in no great length of time restore it to the healing art, where it properly belongs. In the use of this remedy, more discretion is necessary than in the use of laudanum. It is more to be feared when the case is inflammatory, especially, if the inflammation is of long standing in a particular organ. But in the appropriate cases, it is decidedly superior to laudanum, or any other remedy I have yet seen. In cases of threatened attack, where, after a hearty meal, or some article taken which is hard of digestion, the patient finds himself throwing off volumes of air, his feet become cold, and slight pain begins to be felt in the stomach or bowels, a glass of brandy and water, about a table spoonful of brandy where it is not habitually used, is the best of all remedies. One fourth part of the quantity taken at the time of eating, would have hindered every ill consequence. But even after the attack has come on with violence, if there is no opium or laudanum at hand, brandy, or other good spirit, may be substituted with great advantage. Thus far nothing has been said of the removal of acid from the stomach. The earths and alkalies which neutralize it in the stomach, should never be forgotten. The presence of acid is always to be suspected ; and where the case is so mild as not to call for the use of an emetic, some one of the neutralizing remedies should be used. This is not to be neglected, because the patient is not sensible of the presence of acid in the stomach. Some persons are never sensible of this, except they are made to throw it up—in language perhaps more generally understood, they never have *heart burn*. But this acid is, in many cases, a leading cause of the pain ; and a remedy to remove it, is often attended with immediate relief. Sixty grains of prepared chalk, a piece about the size of an al-



mond, may be eaten, or taken in any convenient way. More or less may be taken, and repeated, as often as it is found necessary—the article being inert when it meets with no acid to combine with, and when it does, producing the least offensive compound of all others. For this reason, it is, in the hands of common persons, the safest of remedies. Magnesia is also a remedy for this disorder of the stomach. When combined with the acid it meets with in the stomach, it forms a mild cathartic, and when this effect is desired, this article may be chosen. I advise the following combination :—Take of powdered rhubarb, 30 grains—calcined magnesia, 60 grains—mix and divide into four powders. One of these powders in water, may be taken and repeated as called for. The magnesia may be taken separately in larger doses—a tea spoonful in water—and repeated without fear. Its only effect, after neutralizing the acid, is to act as a gentle cathartic; and the greatest fear is, that from its temporary good effect, the patient may indulge in its use too frequently, to the injury of the digestive powers. Lime water is also a certain remedy, to remove acid from the stomach. A table spoonful in a glass of water, may be taken at two or three doses in a few minutes, the patient being cautious to desist when the presence of acid is no longer felt. Used in this way, I have never known any great inconvenience attend the use of lime water; but there are reasons against relying on it. The quantity taken should not exceed the power of the acid in the stomach to neutralize it. The lime, in that case, might be a worse caustic than the acid it is given to remove. Another objection to lime water, is the difficulty of preserving it, of a given strength. The two fixed alkalies, soda and potash, are first rate remedies here. In this state of preparation, these two alkalies are mild enough to be safely taken into the stomach, even when there is but little acid present. From ten to twenty grains in water, may be given, and repeated, as they are required. The volatile alkali—ammonia—or, as it is commonly called, hartshorn, is also a remedy for acid stomach. Its use is to be more guarded, because it is of itself a powerful stimulant. It is not often necessary to resort to it; but when the use of the common alkalies has failed to relieve the oppression, discharge of air, hiccup, and other spasmodic attendants of this disease, a few drops of this remedy in the form of water of ammonia, or spirit of hartshorn, will often give instant relief. From twenty to sixty drops may be given; and, after half an hour, repeated, if necessary. There are cases, most frequently met in preg-

nant women, in which the acid on the stomach does not yield to the neutralizing powers of any of the remedies we have mentioned—to the surprise of those who understand best, the chemical relations of the contents of the stomach, and the remedies thrown into it. Still greater is the surprise, at finding tartaric acid or lime juice, a remedy in such cases. Lemons commonly furnish the best remedy, and should be used without too much sugar. The juice of a hard apple, obtained by chewing, I have found, in some cases, a first rate remedy. These articles may be tried, in cases in which the remedies first mentioned, seem to do no good.

The paroxysm of this form of colic, is commonly relieved, before the bowels are operated on; but, in other cases, the pain continues till the bowels are thoroughly evacuated. In reference to this fact, calomel should almost always be administered, at the same time the laudanum or opium is given. It will not hinder the beneficial effects of the opium, and twelve hours or longer after its administration, it will prove the surest reliance, for the thorough evacuation of the bowels. If, in ten or twelve hours, the calomel does not operate of itself, some brisker cathartic should be administered. Castor oil, in doses of from one to two ounces, is the best, if it will remain on the stomach, and can be made to operate. Salts and senna are by far more powerful; and, in difficult cases, the surest reliance. I give it as follows: take of senna leaves half an ounce, Epsom salts two ounces. Pour a pint of boiling water on the senna, keep it warm by the fire for fifteen minutes, and then strain it off, and add to it the salts. Of this, a wine glass full, about two ounces, may be taken hourly, with more certainty of procuring free discharges from the bowels, than any or every other cathartic I have seen tried. Other cathartics may answer as well; and, where they are more easily obtained, may be used; but in all cases where a free discharge is brought on, particular care should be taken to preserve the strength of the patient, if there is much weakness present. This is best done by small quantities of brandy and water—if there is still much pain, laudanum, repeated according to the urgency of the symptoms, should not be forgotten.

Sinapisms—stimulating plasters and warm fomentations, and even the warm bath, I consider temporary, and at best but secondary remedies. Where the pain is violent, they may be used, and I frequently advise them as auxiliary remedies to the more powerful agents I have been describing. Injections are to be placed in the same class. I will repeat an observa-

tion I heard made by Docter Rush. "An injection is a broom in the hand, with which a poor attempt is made to reach up, and sweep down the soot from the chimney; a cathartic is a chimney sweep, who begins at the top, and clears out every thing before him."

The paroxysm having terminated, the physician should not be too anxious to do more for his patient. If some fever supervenes, a little time, with abstinence and the undisturbed operations of nature, may be safely relied on. If the inflammation of the kidney, liver, or any other organ which may be diseased at the time, is increased, the same rule holds good—let the patient have a few days' rest from remedies. But let all the usual means of preventing a paroxysm, be diligently practised, when the patient rises from bed. Let constipation and indigestion be carefully avoided. Let exercise be regularly taken, but avoid with the greatest care, sudden exposure to cold and suppressed perspiration. The skin has an important office to perform, in this disease, as well as others. The cold extremities attending the attack, may be considered a mere symptom of the disease, and depending on it. But the frequent occurrence of attacks, obviously brought on by being caught in a rain, or by getting the feet wet, leaves no doubt of the deleterious effects of a sudden suppression of perspiration. Sensible of this, I have advised the wearing of flannel next the skin, and shoes and stockings warmer than those usually worn. In one case, where these seemed insufficient, and the patient still had his attacks ushered in with cold feet, I advised a piece of felt or hat, worn in the shoes, and the ease was relieved.

#### COLIC IN INFANTS.

These cases present the simplest form of colic. The stomach now for the first time, being called on to digest food, should have presented to it only that which is exactly suited to its powers. The milk of a healthy mother is exactly the article; but subject to deterioration from so many causes, such as ill health, bad food and bad drink; that it is not wonderful that the child is hardly nursed before its stomach is tormented with pain and spasms. The same effect, no doubt, as often happens from defects in the digestive powers of the child. Improper food given to the little stranger, is a frequent cause; and exposure to cold and dampness must be regarded in the same light. Costiveness is also a frequent attendant, and probable cause of this disease. All these causes suggest the proper remedies—

the mother's health and the child's comforts must be provided for, and the indigestion, pain, constipation, and flatulence, require nearly the same treatment with the same symptoms in grown persons. But the tender age of the patient, suggests the necessity of greater caution; and we shall, therefore, dwell a little on the treatment of infantile colic.

The violent screams of the little sufferer—the coldness of its hands and feet—frequent discharges of air from its stomach and bowels—the drawing up of its legs, and the spasm of its abdomen, easily felt on pressing on the part with the hand, sufficiently point out the disease. The attack is to be met with remedies to expel the wind, and remove the spasm from the stomach. A tea spoonful of brandy, with a little sugar, and four times its volume of water, may be mixed and given in doses of a tea spoonful every fifteen minutes, if necessary, till two or three doses are given. Four grains of prepared chalk in syrup, may be given to correct any acid the stomach may have on it. If no relief is obtained, the essences of lavender, cinnamon, or peppermint in sugar and water, may be given. Three or four drops of either of these may be given, from time to time. These remedies will hardly fail to relieve the pain in a short time; but they do not always effect it, and resort must be had to paregoric or laudanum. Six drops of paregoric, or one drop of laudanum, is a dose for a child of a month old or less. This remedy is to be resorted to only when others fail, but then it may be used with great safety and success. The great objection to it, is the temptation its soothing powers give to the too frequent use of it, by nurses or mothers. From the apprehension that vomiting might bring up from the stomach, such large portions of curdled milk, as to be in danger of strangling the child, I have not prescribed emetics. During the attack, I believe a child never throws up its milk—the violent and spasmodic contractions of the stomach, expel only wind. Yet, at other times, and in other disorders, curdled milk, sometimes very hard, is thrown up.

In the intervals of the attacks, remedies are still to be used. The following prescription I have given with great advantage: Compound tincture of gentian, one ounce and a half; compound spirit of lavender, half an ounce. Mix these together, and to a child a month old, give ten drops in water, four times a day. Twenty drops of brandy in sugar and water, may be given five or six times a day, for the same purpose; but it is far inferior to the gentian. The variety of spices and vegetable tonics, which may be beneficially given in these cases, is



very great. Ginger, calamus, allspice, and the bark of several trees, such as wild cherry, poplar, and others. There is no benefit in changing from those I have recommended, to any of these. If, by these means, a perfect digestion of food is brought on, the bowels will probably take on a healthy action; but there are many cases in which costiveness in infants, becomes of itself very troublesome, and requires remedies for its removal. In slight cases, injections of soap and water, or a piece of soap reduced to a size little larger than a quill, and forced into the anus, will cause a passage from the bowels in a few minutes. These means proving of no effect, purgative remedies should be given. Rhubarb is probably the best. Four or five grains in water are not too much for a cathartic for a child a month old—half the quantity might move the bowels gently. Where an acid stomach with feverish symptoms, is present, give the following: Take of rhubarb, six grains; calcined magnesia twenty grains; mix and divide into four powders, one in water to be given from time to time, according to circumstances. These remedies should not be persisted in longer than their absolute necessity is obvious. The child should, as soon as possible, be delivered over to nature, its great conservator.

#### BILIOUS COLIC.

This variety of colic is discriminated from other kinds, by the fever, and tenderness, or inflammation of the intestines, which attends it. It is commonly brought on with a chill, making its attack most frequently in the night, and commonly in the heat of summer. It is attended with irritability of the stomach, vomiting of bilious matter, pain of the abdomen, cramp in the muscles of the belly, and in the intestines, and frequently extends to the limbs. In this state of agony, a cold perspiration bedews the whole body; paleness, or rather a cadaverous yellowness of the face, with the expression of intense pain, points out the serious nature of the malady, with which the patient is attacked. Gradually a feverish heat is felt over the abdomen, and it extends by degrees to the whole body. The pulse, small and quick at first, becomes full and corded; and the face no longer pale, is flushed and burning with heat. The bowels are obstinately costive; and, if no relief is obtained, the irritability of the stomach, and vomiting increase; and the patient, after the most harassing affliction of several days, expires. In a few cases, the vomiting increases, the ac-

tion of the whole intestinal canal is inverted, constituting what is termed ileus; the whole contents of the bowels are discharged by the mouth, the case is protracted, local seats of inflammation may be detected by carefully examining the abdomen, and some times an unexpected hernia found in a strangulated state. These symptoms, without relief, lead also to a fatal termination.

#### TREATMENT.

My experience in colic would not allow it a place amongst very fatal disorders. Allowing all that can be claimed for the best mode of treatment, I am still left to think that it is, in my neighborhood, a comparatively mild disease. Ileus I have never seen, and fatal cases of colic I have very rarely seen. But I have often treated bilious colic, with very formidable symptoms; and I offer my mode of treatment with some confidence.

When called early to cases of this disease, I lose no time in administering twenty grains of calomel, with three or four grains of opium made into pills. A grain of morphine may be advantageously substituted for the opium. If this remedy is retained, I give nothing more for twelve hours. I then give two ounces of castor oil, and repeat it every two hours, till free evacuations by the bowels are brought on. If at this time, the case seems formidable, I lose no time with castor oil, but prepare my favorite remedy, salts and senna, and give it, in broken doses, as advised in common colic. Under this treatment, cases seldom last beyond the second day. But in cases with manifest fever, and tenderness of the abdomen, bloodletting, at the outset, is necessary. If the nausea is distressing, and the pills rejected, and there is, at the same time, a considerable fever, give tartar emetic in half grain doses, at intervals of half an hour, till a free emetic operation takes place. This will probably reduce the nausea, lessen the tenderness of the abdomen, and render the operation of cathartics more easy. Some times it happens, that when medicines have fully discharged the contents of the bowels, the pain yet remains, nearly as bad as ever. This will indicate the presence of inflammation, commonly, of the small intestines. This is to be treated with more regard to the local symptoms. I should approve of leeches on the tender points, and cupping as near them as it could readily be borne. But I have oftener resorted to blistering, and have had every reason to be satisfied with its effects. Cathartics should not be persisted in, in these cases, but three or four

grains of calomel daily should still be given. It is a great mistake to change this article with irritating the bowels. Whether it be from its operation on the liver, causing it to throw into the intestines a mild bilious secretion, or from any other cause, it has never, in my hands, seemed to increase the tenderness of the bowels. On the contrary, it has, in all cases of inflamed bowels, appeared to me the mildest and most soothing of all cathartics. Should the case become protracted, and the small doses I advise, be continued for several days, a salivation may be induced; but the danger of such cases, does not justify any hesitation in the matter. A salivation is a small evil, when compared to the consequences of these uncured inflammations of the bowels.

I have not mentioned the title of the remedies which have been used in colic. I think, however, I have mentioned those which are best, and those which will prove sufficient. I have not mentioned fomentations, or injections. The first may be useful in allaying pain, and the last, however feeble, may secure the operation of cathartic medicines, when without its aid they would require a longer time, and possibly fail altogether.

Ileus is so alarming a symptom, that it should arouse every energy, and call forth every remedy. It occurs as well in other forms of colic, as in that we are now treating. It admits of a longer continuance, than the disease when attended with constipation. I have said that in this case, the contents of the whole intestinal canal are thrown up in vomiting. The character of these matters, especially their offensiveness, is so easily known, that further description is unnecessary. On examination, there will be found in the abdomen great tenderness of some particular part, and probably a tumour, more or less defined in its extent. Dissections have shown that these symptoms arise from invagination, or intussusception of some portion of the intestinal canal. This is a portion of the intestine, drawn like the inverted finger of a glove, into another portion. This may happen in the upward or downward course; and, so far as I know, produces the same symptoms in each case. It is sometimes very slight, extending an inch or less; but I have seen nine inches of intestine drawn out of another, from where it had been thus thrust or drawn in.

The sufferers in ileus, like those in infectious diseases in barbarous countries, seem to have been the subjects of every rash experiment which the mind of man could devise. Although the case is often fatal, the patient seems tenacious of life. He lives against reason and against hope, and his phy-

sician goes on from one expedient to another—pounds of shot have been given as a remedy—crude mercury has long been celebrated, and is given without limit—injections of tobacco, or tobacco smoke have also been frequently tried; and to crown all, the surgeon has opened the cavity of the abdomen, to unravel with his hands, or cut loose with his knife, these knots and entanglements of the bowels. Yet in spite of these fearful remedies, amongst which tobacco stands on a “bad eminence,” the patient has frequently survived. They have survived I fear not often, the surgeon’s knife, the mercury of the apothecary, and the lead, or rather the shot of the huntsman. Even the poison of tobacco, at times fails to extinguish life. Even nature has in this case imitated successfully the rashness of the surgeon. A portion of the intestine which has been drawn within, and strangulated, has in several cases, been known to slough off, and be voided by stool; and, strange to tell, the intestine has healed and the patient recovered. There is then, hope in ileus. But I am far from thinking that this hope is strengthened by the rash means above spoken of. So soon as the evacuation of the bowels, either upwards or downwards, takes place, the sudden death from mortification, or constipation, is less to be feared. The physician should remember this, and allow to nature some time to rectify her disordered action. In ileus, he should remember that he has no remedy whose direct agency is known to change an inverted, to a natural motion. The structure of the intestines, seems to provide for a regular motion, to forward and expel their contents. Their inverted motion has, as yet, neither been accounted for, or controlled. It seems, I believe, always to be attended with local inflammation. The removal of this would seem to be the appropriate remedy. The restoration of direct, in place of the inverted action, must be left to nature. I should be sparing in the use of cathartic medicines, not only because they, in cases of ileus, will probably be thrown up, but because I should have most hope from the greatest possible state of stillness and quiet, which could be produced for the bowels. To this end, I should, by all means, reduce the inflammation by bloodletting, to the extent of the necessities of the case—the better if drawn in small quantities, or by cups or leeches. Applications of cold, by ice or cold water over the abdomen, deserve a trial. Injections of cold water, have also been recommended. Calomel and tartar emetic, the great means of combating inflammation, are to be used here with the greatest caution. Yet I could not attend a protracted case



of this kind, without giving them a trial. Both these remedies are to be given for their constitutional effects, and may be used combined or separately.

Take of calomel twenty grains, tartar emetic four grains ; mix, and make them into sixteen pills. One of these pills to be given every two hours ; and if they lessen the vomiting, continue them till all are taken, or relief by downward passages is obtained. If an increase of sickness at the stomach attends their use, stop them, and make other pills without the tartar emetic, but the same quantity of calomel. Let these be tried, without any added cathartic. These remedies may seem feeble ; but let it be remembered, that they are not given to force a passage in obstructed bowels, but to restore regular, and alter disordered action. And finally, in regard to this form of colic, let all things be done, with deliberation, and a full sense of the necessity of allowing the operations of nature to proceed, with the least possible disturbance from remedies. When the inflammation is subdued, remedies are no longer called for. The remarkable recoveries recorded, have owed less to art than many of their reporters would willingly allow.

#### PAINTER'S COLIC.

This form of colic arises from the poison of lead, and, in the outset, is not easily distinguished from other varieties ; but in protracted cases, paralysis of the arms, and sometimes of other parts of the body, sufficiently distinguish it. For a long time the epidemic colic of certain districts in England, in France, and in Spain, as well as in the West Indies, and the United States, was thought to be identical with the painter's colic of the great cities of Europe. The poison from lead, known to be the cause of it in cities, was supposed to be derived in the country from certain drinks, such as cider or beer, which had somehow been incautiously kept in vessels composed in part of lead. Closer investigation has demonstrated the fallacy of this opinion ; for it appears that no such use is made of leaden vessels as to account for the phenomenon, and that the disease occurs equally in those who use none of the drinks charged with such pernicious consequences. The paralysis too, which arises notoriously from the poison of lead, does not occur where this cause is wanting.

The disease, as a distinct species of colic, is not readily known by its first symptoms ; but it is to be suspected if persons, who, from their trade, are much exposed to the influences

of lead, are attacked. The persons most exposed are painters, plumbers, and miners, or smelters of lead. I have seen several cases in printers arising, as I suppose, from the lead which is a component part of the types their occupation requires them to handle. Doctor A. T. Thompson has labored to shew, that the carbonate of lead is the form of that metal most deleterious, if it is not the only form in which it is capable of producing painter's colic. By far the most dangerous exposure is that of the painter, who paints the dead white, made of white lead combined with a large portion of spirit of turpentine. Exposure to this volatile compound in close rooms, is the cause of many cases of painter's colic. Families venturing into newly painted rooms, are frequently thus diseased. But it will be unwise to reckon on safety in the use of other preparations of lead. I have known a fatal case of painter's colic brought on in a child, by its eating a piece of red sealing wax; and another from raspings of lead administered for worms. Yet I have often prescribed the acetate, or sugar of lead, in considerable doses for a length of time, and never had a case of this disease arise from it. I have been equally fortunate in its external application in solution, or combined in ointment. So far as my own experience goes, I must say that sugar of lead, used internally or externally, is a safe and valuable remedy. But to return to our mode of forming a judgment of the nature of the attack. The probability of an attack of painter's colic, is in proportion to the susceptibility of the patient, and the exposure to the causes we have pointed out.

The symptoms are plain enough, if well considered, to guard us against an improper prescription. Pain, and a sensation of weight about the pit of the stomach; general languor and weakness, cold clammy skin; weak pulse; coated and tremulous tongue; and, sometimes at the outset, a diarrhoea. These symptoms are mild, and may continue for some time, but they are rendered intense by any exciting cause. Exposure to cold or wet, even of the feet; excess in eating or drinking, or any undue excitement, seems to bring on the attack with all its force. The pain now becomes violent—the muscles of the abdomen contracted—the bowels, drawn as it were, into knots, no longer allow any thing to pass them—the spasm ceasing for a moment, allows the movement and roaring of contained air, which I have seen more remarkable in this, than in other forms of colic. The abdomen is rather gaunt than distended, and the patient, pale, haggard, and exhausted, presents a peculiar aspect of misery. The attack,

at first, is usually unattended with fever; and, so far as investigation has enabled us to decide, less inflammation in its whole course, than any other form of this disease. But if the attack is not arrested, a low fever supervenes, a jaundiced look, quick pulse, and hot skin seem to point out the liver as a suffering organ. The symptoms often become alarming, vomiting, hiccup, thirst, and tenderness of the region of the stomach, come on, but are attended with less danger than might be expected. In some cases, there is a calm and undisturbed state of mind, but more frequently, the brain and nerves seem to be greatly disordered from the first. Headache, vertigo, stupor, and sometimes delirium, come on. In more violent cases, convulsions, which may continue for many hours. A temporary blindness is sometimes added to the miseries of the attack. The restlessness and contortions of the body, perhaps, are carried farther in this than in any other form of colic; yet, in all this, there is not much danger of immediate dissolution.

These symptoms of disease, violent and intolerable as they are, seem but to lead the way to others more awful. Palsy, first in the arms, and next in the lower extremities; emaciation, or shrinking of the limbs affected, and a drawing, or distortion of the parts in various ways; yet, in all this, the mind of the sufferer seems to remain unsubdued—his intellect except for a short time is clear and unclouded.

The organic derangements which these symptoms seem to point out, are in fact not present. The intestinal canal shows to the dissector no structural derangement. The nerves present their healthy appearance, and perhaps in this more than in any other disease, examinations after death have disappointed the dissector. Yet our limited knowledge, in this case, with no obvious disease of the brain, or nerves, compels us to call it a nervous disease. Its manifest symptoms compel us to charge the nerves with the burthen of the affliction, but we cannot find the proofs of it by dissection.

#### TREATMENT.

Doctor Dunglison says that the treatment of this form of colic differs from others, chiefly in the greater use to be here made of opium. And here I might, without much danger, leave the subject, recommending the same treatment I have offered in other cases. But it is well to suggest, that the local inflammation common in other forms of colic, being absent here, there is a general license in the use of stimulants and tonic

medicines. To relieve pain, evacuate the bowels, and sustain the strength, are the first objects of the treatment. A pill of a grain of morphine and ten grains of calomel, is the best prescription. Too much hurry and precipitation is to be avoided. Give time for the medicine to operate, and do not expect large doses to produce corresponding powerful effects. Go on patiently but steadily with the ordinary means of removing costiveness, and exciting torpid bowels. Let pills of aloes and gamboge or croton oil, have their place here, rather than in other cases of colic. But fail not to persist in the use of these, or similar means, till free discharges are brought on. After this the frequent use of laudanum or morphine, may become necessary. Let them be used without fear of ill. They may be necessary for a considerable time, but not a life time. I offer no proof of the fact, but I always think while time is sometimes consumed apparently to little purpose; nature is insensibly, in her own "cunning" way, throwing off the poison from the system. Support your patient by every means, and relieve him from pain if in your power, and depend on nature to throw off the poison.

Chemistry ought to furnish the means of neutralizing and destroying the poison of lead in the living body, and many prescriptions have been used with this view. The compounds containing sulphuric acid, seem best calculated for this purpose. They have been fully tried and found wanting. Alum, one of these, has of late been published as a remedy. It is offered in doses of sixty grains, three or four times a day. I have had no opportunity of testing it, but think it worthy of a trial.

The paralysis which attends, or follows painter's colic, requires no particular treatment. If it attacks, as it frequently does, the flexor muscles of the limbs, splints and bandages should be used to preserve their form and straightness. Sinapisms, or tartar emetic ointment along the spine, or blisters near any point of great tenderness, will be beneficial; but the great reliance is friction, and frequent warm bathing of the limbs affected. Under this simple course, there is reason for great hope in cases, very unpromising in their appearance. If no relief is obtained, *strychnia*, a powerful drug, has been found a valuable remedy. Dissolve a grain in a few drops of alcohol or spirit, and make it into twelve pills. Begin with one three times a day; and increase, in the course of three or four days, to six pills, or half a grain. I have given it in larger doses without producing any ill effects.



---

CHOLERA MORBUS.

The attack of this disease is commonly sudden. Vomiting, purging, griping pains, and spasms of the muscles of the abdomen, and of the extremities, compose the most common symptoms. It is a disease of more violence than danger, and is commonly the effect of improper food taken in too great quantity. It is sometimes epidemic, appearing in the last days of summer, and has, in our time, spread as a dangerous pestilence regardless of season, over a great part of the world, making its invasion of Europe from the East, and of this country from Europe.

There can be no use in dividing this disease into a great number of varieties; whether it arises from errors in eating, or from the excessive heats of summer, it is, in its symptoms and treatment, essentially the same. The common, or sporadic cholera, in grown persons, and the same disease in infants, may include the whole subject, except the Asiatic or pestilential, which will be separately considered.

The cholera morbus is most prevalent in summer, when it frequently occurs as an epidemic, attacking persons who were in good health, and guilty of no particular imprudence. Vomiting, purging, and griping pains, occur nearly at the same time. As the disease goes on, the pain increases, extending to the limbs, which are affected with frequent cramp, or perpetual spasm. The discharges by vomiting, and by stool, are very great; and at first, of illy digested food, of a pale color, without any mixture of bile. Soon, however, they become bilious; great heat is felt in the stomach, and sometimes the throat and mouth seem excoriated with acid. The discharges become darker as the disease progresses. Great thirst, tenderness of the abdomen, flatulence and some fever, seem to announce the inflamed state of the stomach and intestines. But these symptoms readily give way, and it is doubtful whether a state of inflammation really exists. In a few cases, I have seen the discharges copious and fluid, resembling rice water, and, in these cases, the spasms were distressing, and the danger great.

It is not always easy to discriminate a cholera morbus, from other diseases attended with vomiting and purging. Dysentery is frequently, at first, attended with these symptoms. The pain is, I think, lower down in the intestines; and there is less

spasm or cramp than in cholera. A paroxysm of bilious fever, is often very similar to an attack of cholera ; and is not easily discriminated from it, on the first day. I think it is always attended with more fever, and less spasm ; and its return at the next paroxysm, removes every doubt. Certain poisons, especially arsenic corrosive sublimate, and the salts of copper, produce symptoms very like those we have been describing.

It is of special importance to know the symptoms produced by arsenic, because we have a remedy to arrest it. I think it should be suspected, in cases attended with greater pain, and burning in the stomach, incessant vomiting, and discharges soon becoming bloody.

For the same reason, it is very desirable to know the effect of corrosive sublimate. This article, when taken, is apt to produce its peculiar horrid burning at the stomach, and incessant vomiting immediately after it is swallowed. Its detection is the easier where it is taken by mistake for some other medicine, and not concealed in some article of food, as arsenic when corruptly used is apt to be.

The salts of copper, for which we are not in possession of any proper antidote, produce symptoms still more resembling cholera. The sulphate I believe is so suddenly emetic, that it has seldom proved dangerous when taken by accident. Its discharge from the stomach is so sudden, that the mischief it might cause, is averted. The carbonate of copper—verdigris, is a more dangerous article. I have heard of its causing death, from eating food carelessly prepared in copper vessels. I once knew many persons poisoned by eating, at an entertainment, syllabub thus prepared. Many of these cases were very alarming, and some of the subjects seemed to escape death very narrowly. The vomiting did not occur in much less than half an hour. It then came on suddenly, and was so incessant that it was almost impossible to administer any remedy. Water, or tea was instantly rejected ; and the vomiting, in some cases, went on till blood, in considerable quantity, was discharged. It did not operate much as a purgative.

#### TREATMENT OF COMMON CHOLERA MORBUS.

The first effect of cholera, is to produce vomiting and purging, to the thorough evacuation of the contents of the stomach and bowels. If this salutary operation is not sufficiently copious, draughts of warm water, or weak tea should be given.

If these are rejected, and the nausea and vomiting continue, an emetic of ipecac has been recommended. I do not, however, use the emetic, having, as I think, uniformly found opium, with or without calomel, a better remedy. I give from one to four grains, according to the violence of the disease. If the vomiting continues, or after being for a time suspended, returns, I repeat the remedy in less doses. Thus with opium alone, I have cured hundreds of cases of cholera morbus; having administered it without any further precaution, than satisfying myself that by the operations of nature, a thorough evacuation of the stomach and intestines, had taken place. This is still my practice, where the patient has been enjoying ordinary health, and I have no reason to think he has dyspepsia, inflammation of the liver, or other local disease of the viscera of the abdomen. But if I find fever supervene, with more or less tenderness of any portion of the abdomen, I lose no time in giving calomel. In cases of much violence, I advise this remedy, combined with opium at first. Ten grains of calomel, with three of opium, is an efficient remedy. If the case does not give way at once, I regard the calomel as the only proper remedy. It is to be repeated, if necessary, in smaller doses, till easy bilious discharges are brought on, and relief is nearly certain. Some care may be necessary to avoid a salivation; by interposing a dose of castor oil, if the calomel is continued more than two days. But the probabilities are so strong against a salivation in this disease, from all the calomel it will be necessary to give, that I hardly deem it necessary to give the admonition.

With what has been said of the use of opium, calomel, and castor oil, I might safely leave the subject of cholera in grown persons. There are, however, minor ills, and minor remedies, in this disease. The acid, sometimes so painful on the stomach, may require prepared chalk or lime water to correct it. I object to magnesia in this case, because its cathartic tendency is to produce the watery discharges, so prostrating in cholera. Sinapisms, or blisters, over the pit of the stomach, may be useful in obstinate cases, and should be tried in their turn. Where the case has been badly treated, or there is a previous diseased state of the viscera, the patient frequently remains feverish. Remedies are seldom necessary in these cases; a little time and rest are all that I have found necessary.

---

CHOLERA IN INFANTS—CHOLERA INFANTUM.

In teething children, cholera is so different from the same disease in grown persons, that it requires a separate consideration. It is a disease of summer, differing, in most cases, as I think, very widely from the attacks of vomiting and purging sometimes occurring in cold weather, from excess in eating. But in infants, it becomes a general disease of the system; frequently protracted through the whole summer, producing in the time, many paroxysms, with fever, and wide spread organic derangement. It is, in some parts of the country, known by the term "summer complaint;" and, independent of the danger attending it, may well be regarded as the scourge of the nursery. So little notice is taken of this disease by foreign writers, that we are warranted in the belief, that its formidable character is to be inferred, only from the experience of the people of the United States. Here its dominion is universal; and although a disease of summer, it prevails from New Orleans to Boston—from New York to St. Louis. Nor is it sensibly worse in warmer latitudes; for it is still doubtful, whether it is most to be feared in New Orleans or in New York. It was long regarded as the plague of cities; but it is now conceded, that no locality is a refuge from its attacks; and it has appeared in the circle of my practice, as often in the best and most comfortable summer residences, as in the worst.

## CAUSES.

Why cholera infantum should be in the United States, a formidable disease, and in the rest of the world, comparatively harmless, will probably be forever unknown. It seems idle to attribute to teething and hot weather, effects in this country which they do not produce in others. I concede, then, that there is some unknown cause of cholera in this country, which exerts its powers on teething children in summer. I have not found it worse in moist, than in dry weather; or in very hot, than in moderately warm summers. But I have always seen it arise, and extend, with the warmth of summer; and, in some years, become so general, and fatal, as to force on the mind the conviction, that there existed for it some general cause. Nor is its appearance in hot weather, more marked than its disappearance when the weather becomes cool. Sev-



eral times it has happened, in my practice, that the cases of the season had been inveterate, and several children seemed to hold on to life as if to wait for some expected relief. This relief has been found in a sudden change to cold, which, in every case, has produced, in a single day, a change so radical, as to give perfect assurance of recovery. We are then fully authorised, to set down the heat of summer, as one of the causes of cholera in infants.

Teething is another cause, which I have found to influence the course of the disease, more than warm weather. True, it requires both to produce and continue the disease; but I have never seen a well marked case of cholera infantum, except during the period of cutting teeth in children, from four or five months, to three years of age. But the influence of teething on a case which has already occurred, is remarkable. Every pair of teeth, or every single tooth, when they do not appear in pairs, as its growth progresses from the jaw through the gums, seems to produce its paroxysm of the disease; and when the eye teeth, and first jaw teeth are obtained, and fully grown, no heat of summer can protract the disease. A diarrhœa may remain, but the symptoms are entirely changed.

Bad food must also be regarded as a cause of cholera in infants. I have no idea that this alone would produce any thing more than a diarrhœa; but I have often seen paroxysms of cholera seem to be brought on by improper food; and nothing is more injurious in this disease, than the milk of an unhealthy nurse. Yet it is not every sickly mother who gives unwholesome milk; and some attention is necessary to detect the cause, when it depends on the food drawn from this source.

#### SYMPTOMS.

Some fever and diarrhœa may be expected to occur in a teething child, in summer or winter. It is only when it becomes inveterate, that a remedy is required. But the attack of cholera, although attended with free discharges from the bowels, is a very different affair. Yet the difference is more in degree than in kind. The attack of cholera is sudden and violent—commonly in the night, but frequently in the day time. Fever from teething, has probably existed for several days; but a chilliness, with pale face, dreadful nausea, frequent vomiting, with copious discharges by the bowels, are always present at the first attack. The child, prostrate in its nurses arms, lies inattentive to surrounding objects—its chief pain is thirst,

it opens its eyes to demand water; and on receiving it, sinks again to an apparent slumber, to be aroused in a few moments by vomiting. Young children, impelled I have no doubt by thirst, draw eagerly at the mother's breast, to experience the same fate—a few minutes' rest followed by vomiting. Spasm of the limbs, or pain in the bowels, seldom occurs, during these paroxysms. The attack, like the paroxysm of a fever, runs its course in a given time—a few hours, or at most a day. Prostration attends it from the first, and I have seen death occur in twenty-four hours; but this is very rare, and it may be reckoned on with some confidence, that the storm will blow over, and the little sufferer rise the next day, bright and playful it may be, but shorn of its strength, and greatly reduced in flesh. Appearances are now very fair—a pair of teeth perhaps appear, and weeks pass before we are again called to witness a renewal of the same symptoms. On examination, it will be found, that another pair of teeth are about to appear; and the child is fortunate if it escapes with but one attack for each pair of teeth. More frequently, the attacks are at the rising of the teeth from the process of the jaw bone, and again on their reaching the top of the gums. Where a single tooth appears at a time, the attacks are multiplied, and the case a great deal worse. In some cases, the attack returns no more, and a cure as in grown persons, is effected by bringing the first paroxysm to a close. These fortunate cases I have thought occurred, principally in children whose teething, having commenced the previous year, was nearly accomplished at the time of the attack; but the child which, in May or June while cutting its first teeth, has an attack of cholera, will seldom fail to have it again and again, during the summer.

The disease has now but begun its career. Whether the attacks regard the progress of dentition, as I have supposed, or are governed by things seen or unseen, they are renewed, from time to time, at uncertain intervals. The paroxysms, if less violent are more protracted; and the fever, in some cases, seems to continue nearly all the time. Others, however, run out of every attack with a cool clammy surface; and no obvious fever. In every case, the flesh gives way, and the skin has a peculiar flabby and folded appearance, as if its power of contracting to the dimensions of the body, were lost. The return of the disease by paroxysms, in most cases, continues to the end; and, in these cases, the recovery is most perfect. In many cases, the disease having several times occurred in paroxysms, becomes at last continued. A low fever and diar-

rhœa attend it, sometimes with frequent and painful discharges; and in other cases, equally wasting, but copious and not frequent evacuations. Food, or milk from the mother, is no longer digested—aphthae (yellow thrush) is seen on the tongue, or inside of the lips. Great irritation is manifest in the stomach, and bowels—the discharges are acid, and excoriate the anus, and the adjoining parts—the countenance changes, the eyes become blood-shot, and the brain being attacked, stupor and death close the scene. It would be useless, if I could remember them, to point out every symptom which will present itself. I have mentioned those I have most frequently seen, and I think enough to identify the disease.

Death seldom occurs, till the patient is exhausted, and reduced almost to a skeleton. Nor does it then always arise from mere waste of the body. Examinations after death show fatal alterations of the vital organs, such as the stomach, the intestines, and the brain; but the liver, in which we might readily suspect the greatest changes seems to be least affected.

Recoveries happen in cases apparently the most unpromising. The degree of waste and exhaustion of the system, can hardly be so great as to preclude the hope of recovery; and I have seen patients rise, after having almost every symptom regarded as most fatal. Within a year past, my mind reverts to two cases, in one of which a squinting, not a cross eye, and a heavy head, pitching down on the pillow, and refusing to be held in an erect position, seemed to point out a fatal disorder of the brain; and in the other, a vomiting of blood at every attack, till it seemed almost impossible that a single repetition of the hemorrhage could be borne, while other symptoms were very unfavorable. Yet these patients both recovered perfectly.

#### TREATMENT.

The remedies for cholera in infants, are the same as those for grown persons; but they should be varied according to the circumstances of each particular case. The vomiting and purging of a moderate attack, cannot be regarded as unfavorable circumstances. They are salutary, and ought not to be checked unless they go too far. If the nausea is great, and the efforts to vomit raise nothing from the stomach, give from three to five grains of ipecac in water. This will commonly effect the free discharge of the contents of the stomach. Tepid drinks may be offered; but if they are refused, give cold water in small quantities at a time. This is by far the best of

all drinks for a child in sickness, as well as in health. As soon as the contents of the stomach seem to be evacuated, give a full dose of laudanum, say five drops to a child a year old; and repeat it if it is thrown up, or after an hour or two, seems to have failed to control the vomiting and purging.

If the disease is not fully arrested by this means, and it has not been done, lose no time in giving calomel. It may be given at first, or after the laudanum has in some degree quieted the stomach. It may be given alone in doses of a grain, once in three or four hours, or combined with chalk as follows: Take of calomel four grains, prepared chalk twenty grains; rub well together, and divide into four powders, one to be given in syrup every four hours. If two or three free billious passages are brought on by the next day, give nothing else; but if not, give a tea spoonful of castor oil, and repeat it after two or three hours, if necessary. This will properly close the treatment of the paroxysm.

Another attack may be expected in a short time. This is to be treated in the same way, recollecting the weakness, which will now be greater than before. More fever may now be expected, and laudanum should be given with more caution. The calomel and chalk are now the more necessary; and should a diarrhœa supervene, two grains of Dover's powder may be given, at night, or evening and morning, if necessary.

The intervals between the paroxysms commonly become less perfect, and a diarrhœa is almost constantly present. The stomach also becomes more seriously disordered, acid eructations, inflamed gums, and thrush, or aphthous sores appear on the tongue, or inside of the lips and cheeks. This state of things is best met by a dose of calomel of about three grains. It may be expected greatly to relieve the fever, and to cause the ulcers in the mouth to heal in a short time. If the discharges of the bowels continue large and frequent, from three to five drops of laudanum may be given at bed time, and again after twelve hours, if necessary. Various vegetable astringents have been given to suppress the diarrhœa, which so often attends this disease; but they have seldom answered my expectations. I may, however, mention the first and best; the decoction of oak bark, in doses of one or two tea spoonful, according to its strength. Tincture of rhubarb, in doses of ten drops or less—tincture of kino in the same dose, and many others; but I will repeat it, they are but little to be relied on, in this disease.



If the case proves obstinate, and the strength of the patient gives way, a small portion of brandy, about a tea spoonful with sugar and water, may be administered, once or twice a day. The acidity of the stomach may be combated by chalk julep, made by rubbing prepared chalk into a thick mucilage of gum Arabic, and adding a little essence of cinnamon or lavender. The dose given should contain about five grains of chalk, and be repeated three or four times a day. But a much more simple, and I think in most cases, a better mode of administering chalk, is to rub it up very finely, and put forty grains of it in a vial, with two ounces of water. Shake this when it is to be given, and give it in doses of a tea spoonful. It has the great advantage of not turning sour, or running into any fermentation, and may therefore be safely kept for use, for any length of time. Lime water, a solution of potash, in the common form of saleratus, and carbonate of soda, are remedies in the hands of every one, for the removal of acid. The dose is uncertain, for it should correspond with the quantity of acid present in the stomach. The dose of saleratus and of carbonate of soda, may range from three to six grains. Lime water may be given, a tea spoonful at a dose, in water or in milk.

The remedies in this disease are to be varied with its violence. Suddenly in some cases, symptoms of prostration occur—the discharges by vomiting nearly cease, but neither the stomach nor bowels will retain any thing. A substance is no sooner swallowed than it is rejected; and if a very small amount of very thin bile is passed by the bowels, it is with straining and pain. The thirst is intolerable, and the countenance, haggard and distressed, is expressive of the deepest agony. Laudanum is, in this case, the great reliance—five drops to a child a year old, repeated according to circumstances. The same symptoms sometimes occur in cases of long standing. They in these cases betoken more danger, but require the same remedies. The relief from laudanum is sometimes signal; but in some cases, it is rejected instantly from the stomach, and not much better retained if administered as an injection. It should not be too far persisted in. Hope is now almost extinct—the patient's anxiety for water is such, that it will swallow the most offensive fluid—its haggard eyes, constant moving, and violent contortion, cannot be described. I have not seen sinapisms to the limbs, or over the pit of the stomach avail any thing in these cases. But I have often seen, the simplest, and most grateful of all remedies succeed. Yes, where all the milder stimulants, and even laudanum have fail-

ed, I have seen the judicious administration of cold water, relieve like a charm. I cannot recount the times in which I have entered the rooms of these little sufferers, under circumstances more desperate than I have described. I have taken in one hand a tumbler of water, and in the other a tea spoon, and administered a very few drops at a time. The child instantly becomes still, looking eagerly for its next dose, of which it should not be disappointed long enough to make it restless. The process should be continued with short intervals, till the child refuses to drink any more. If it throws it up at first, let it be repeated. But, with due deliberation, the water will seldom be rejected. The stomach should be allowed time to accustom itself to its presence. I have often seen the child which would have swallowed greedily, half a pint of water every five minutes, and have thrown it up as soon as swallowed, become satisfied with less than half a pint, slowly administered with a tea spoon. The relief thus obtained, is as radical as by other remedies. A gentle slumber commonly comes on, and continues for an hour or more; and very often this proves the end of the paroxysm. I have, in many instances, found it unnecessary to administer any other remedy, and have dismissed my patient with only the proper directions in relation to its food and drink.

I have dwelt longer on this disease, than might appear necessary; but not longer than its importance, in the country in which I have practiced, will justify. It is a fruitful source of death to teething children; and where the child is from any cause deprived of the advantage of wholesome nourishment from its mother, or a wet nurse, its chance of life is dreadfully lessened. The lingering character of the complaint, renders it all important that its treatment should be familiar to nurses and mothers, and I shall not think the subject disposed of till I have recapitulated its remedies, and added some rules for regulating the diet and drink, in the whole course of the treatment.

#### RECAPITULATION OF REMEDIES.

*The doses mentioned, being for a child one year old.*

1. In the first part of the attack, give nothing till, by repeated discharges, the stomach and bowels are fully evacuated.

2. If the child rejects warm water, or refuses it in such draughts as to cause a very free discharge from the stomach, give cold water, in small quantities. Its thirst should be at least partially relieved.

3. Give, after the free discharges above spoken of, a dose of laudanum—five drops, or a little more, if the patient is in the habit of taking this remedy. What shall I say to physicians who, governed by high authority, refuse to use opium in decided doses, at long intervals? Shall I tell them that I have tried it a thousand times; and, that instead of a resulting irritability of the stomach, and increase of fever, I find the reverse in every particular? Shall I say, that whereas when I was a young practitioner, shunning calomel and opium, as injurious or dangerous, except in such small quantities as to be useless, I was far, very far less successful in the treatment of this disease, than I am now?

4. After twelve hours, or earlier, give calomel or calomel and chalk, as follows: take of calomel four grains, prepared chalk, twenty grains; divide into four powders, and give one every four hours, till free bilious discharges are brought on. If no operation is seen in twelve hours, give a tea spoonful of castor oil, or some other mild cathartic.

5. This disease has intervals, not requiring during their continuance any remedy. But on a return of the vomiting and its attendant symptoms, repeat the same remedies, avoiding too much laudanum, and continuing the calomel and chalk, for a longer time.

6. The diarrhœa and aphthæ, or thrush, require a full dose of calomel; say three grains, followed by a tea spoonful of brandy, from time to time, with laudanum according to circumstances. Vegetable astringents, decoction of oak bark, if made strong, a tea spoonful two or three times a day—tincture of rhubarb, eight or ten drops, &c.

7. Alkalies and absorbents to correct acid on the stomach. Prepared chalk is the best, and is to be given in doses of five grains, repeated if necessary. Lime water, a tea spoonful—salærat, and carbonate of soda, in doses of from three to six grains.

8. The alarming and violent states, in long standing cases, require laudanum. When the thirst is intolerable, give five drops, repeated three or four times a day, if necessary. At any time when thirst becomes insatiable, and the stomach rejects whatever is taken, give cold water in minute portions, carefully avoiding to give more than the stomach will retain.

I have a remark to make here. Calomel, especially calomel and chalk, furnish our great reliance in the treatment of cholera in infants. It is to be used alone, or with opium, according to circumstances. It may be given in the paroxysm,

or in the interval, and when it produces its peculiar effect on the liver, causing the discharge of thick bile, the patient will almost always find relief. It is not, however, to be continued during the whole treatment of obstinate cases. After three or four grains are given, it is to be suspended for some days, unless it has been followed by cathartics of other kinds.

9. When the disease has continued for a great length of time, producing diarrhœa and aphthæ, or thrush, either in the mouth or around the anus, there are besides the general remedies recommended above, certain local applications to be made. Lunar caustic is by far the best. A strong solution, or what is better, the direct application of the caustic to the ulcers, is not to be neglected. The pain given is but momentary, but the relief is very great. Alum may be used in the same way, and any vegetable astringent may also be used.

The frequent recurrence, and lingering character of this disease, make it important that the proper diet and drink should be used. Milk from the mother, or a healthy nurse, is by far the best, and supplies in itself, all the food, and nearly all the drink, which should be allowed. It should be taken, however, not to satisfy thirst, but hunger. A little attention will enable us to judge, if the child has more thirst than hunger; and if it has, let it have water before it is allowed the breast. It will, in this way, be restricted to the food it requires.

Water is to be allowed, rather in proportion to the fever, than the thirst. It is to be given cold, and in small quantities, frequently repeated. Water is nature's great remedy for thirst; and its qualities are not improved by the thousand additions made to it by man. I reject without hesitation, all oily or mucilaginous drinks, such as flax-seed, or other tea, mucilage of gum Arabic, bene leaves, or a hundred other equally worthless remedies, which have been used under the belief that they were better than water.

There are many cases in which other food than that furnished at the mother's breast, is necessary. This may arise from ill health of the mother, or a failure of a supply from that source; or it may arise from the diseased state of the mouth, hindering the child from sucking. In any event, let good healthy milk from the female breast, be procured, if possible. I have often seen a change to a healthy nurse produce instant relief. In some cases, the milk is so bad, as to be instantly rejected, when other food, or other milk will be digested. From whatever cause it may become necessary, to give food different from that which the mother supplies, it should be given



with the important precaution, not to allow fluid aliment to supply the place of water. A child, in this disease, is never too young to drink water. But the food, from necessity, must be to some extent fluid. Milk should be first tried. It may be used raw or boiled; and I have found but little difference in favor of boiling. A little milk and sugar put into boiling water, is as grateful, and as safe, as any thing I have tried. Its nutritive qualities may be governed by the quantity of milk and sugar, used to a given quantity of water; and I have found it far preferable to tea or coffee, even to older children, as food. It should not be given too warm.

In protracted cases, the appetite becomes ravenous, and richer food becomes necessary to supply the exhausted solids. Starch, in various forms, is the first article to be mentioned. It should be such only as has been prepared for food, in the form of arrow root, sago, tapioca, &c. These are to be prepared by boiling, and require to be made fully done. Sugar, spices, and wine, may be added to give an agreeable flavor; but they are not to be used in too great quantity. A little salt is all that is necessary. Bread, if stale, or unleavened, as crackers or soda biscuit, may be reduced by boiling to a proper consistence, and used in the same way with the preparations of starch.

Rice is a superior article of food in these cases. It requires only boiling, and should be eaten as dry as the patient will take it. It admits of the addition of milk or butter, as the case may indicate.

Corn meal is more oily, and less digestible, than wheat flour. It is less agreeable to such patients; but in the form of small hominy or mush, it is often a very good article.

Various farinaceous roots may be tried—the potatoe first, and best; but the sweet potatoe, although an indigestible article, may be tried, and will be sometimes found to answer very well.

Salt, which has been regarded with no particular favor in this complaint, is, in my opinion, often a valuable remedy. It should be freely given in food which admits it.

Sugar, and the bread containing it, are indigestible and bad; and fruits, and melons, equally so. But these articles are much craved by children; and at the time in which there is no fever present, they are less hurtful than might be expected. Indeed I have no doubt that they are at times beneficial; the juice of the sugar cane, and of hard apples, which yield a trans-

parent juice, I have seen decidedly so, when taken in moderation.

No article of food or drink should be persisted in, when it has become loathsome to the patient. Variety in food is necessary, and it is not always certain that the opinion of the physician is a surer guide, than the indications of appetite. In no disease is caution, and a close observation of the effect of remedies, more necessary—in none do we so often see the ignorant nurse occupy the place requiring the talents and experience of the physician.

These remarks ought not to be closed without a few words on animal food. I have said that milk from the mother's breast, is the best of all food for children with cholera. Next to that, the milk of cows, or, what I have no doubt would be better, of goats. Next to these, my preference has been given to bread stuffs, farinaceous roots, and some fruits of the season. I now place, the flesh of animals at the foot of the list; not that it is to be rejected, throughout the treatment of this tedious malady; but because in its most violent stages, when nature is throwing off her substance, and fever and loathing of food forbidding the thought of meat; it would be hurtful or rejected. But in the absence of fever, or in a state of great exhaustion, even when the fever is not entirely off, we may certainly look to meat, the most nutritious of all food, to supply the waste of nature. The flesh of chickens, or smaller birds, is allowable first—next lamb or venison—then pork, bacon, or beef. If diarrhoea is present, beware of soups, or fresh provisions. They are often swallowed greedily, and yet operate as a cathartic. Yet there comes a time in which they may, by the help of plenty of salt, be digested. When they are first tried, let their effect be closely watched. Beef and pork, well cured, are the most nutritious, but the most stimulating. They are exceedingly grateful to children when convalescent. They are digested even by the most feeble, the powers of the stomach seeming to rise with the demands of the system. Give the little sufferers a piece of ham, or beef in their own hands. Let them chisel it off with their front teeth, and if they have no others, let them swallow it whole. Take care that this is allowed only to those who are free from fever; be careful not to give them too much, and carefully notice its effects before giving any more. I recall with pleasure the memory of many cases, in which I have seen, the most emaciated little children thus tugging at their piece of ham, and greedily supplying two great wants of nature, salt and food. Sometimes finding it too

stimulating, I have had to forbid the use of such a luxury—oftener by far I have found it agree perfectly well with them ; but never did I witness a relapse into a paroxysm of cholera from this cause.

---

## EPIDEMIC CHOLERA.

From the time of Sydenham, cholera morbus has been regarded as a disease, which sometimes appears so generally over large tracts of country, as to deserve the character of an epidemic. In our times another, and, I have no doubt, a different disease, with nearly the same symptoms, has spread far and wide in the most densely peopled parts of the world, and produced a mortality, which may compare with the most fatal plagues of history. This disease has received the name of epidemic cholera ; and although very much resembling cholera morbus, in its symptoms and treatment, is, in its worst forms, so different, and indeed so awful, that it has attracted the greatest attention from the most enlightened medical men of the age.

The cities of Jessore and Calcutta, in India, are claimed as the first parts of the earth on which this fearful disease made its appearance. It occurred in August 1817 ; and it is uncertain whether it was ever before seen. But the investigations of history which have been made in reference to it, leave little doubt that it has been described by historians as a plague, the general term for pestilential diseases used by the writers of the age of the decline and fall of the Roman Empire.

Its progress since its commencement in 1817, has been fitful and irregular ; but it had, in about twenty years, visited almost every city of any note on the face of the earth. Through India its progress was so rapid, that in a few months its visit had been paid to every department of that great peninsula ; but in Europe and in North America, its progress was comparatively slow. Nor were its movements directed by any particular lines ; sometimes seeming to vault over certain nations to break out in others more distant ; but after a considerable time, sometimes years, to make its appearance in the districts apparently before neglected. Nor has its continuance at any particular place, been more uniform—sometimes its work of death being accomplished in a few days, it would disappear from a city, while in others, it would remain for many

weeks or months. In Calcutta, it has hardly failed to appear every year since 1817 ; and now in the winter of 1846, it is said to be raging in certain districts of Persia and Russia. Canada, the United States, and Mexico were attacked in the summer of 1832. It has not, as far as I know, been seen in North America since 1836.

Whether this disease is infectious, or arises from some hidden cause unconnected with the intercourse of men, is not a question of mere curiosity. If by any care in avoiding intercourse with the diseased, the spread of this formidable malady can be avoided, the best way of accomplishing this is surely a matter of interest. But if the disease is not infectious, and not increased by the commercial, military, or social intercourse of men, the benefits of the sick, and the comfort and well doing of those who are so fortunate as to escape, will be greatly promoted by this fact being well established and fully believed. It is much to be regretted, that a matter of such importance should be still undecided. Opinions are divided ; and I who have never seen the disease, will not offer an opinion of my own.

The facts which have been reported from reliable sources, give on this question arguments on both sides. The epidemic cholera which we are considering, was first brought to our notice in India, in 1817—its spread over that thickly peopled country was rapid, and China soon felt its effects. Its route to Europe, seemed to be through the higher latitudes of Asia, through Russia and Persia, along the shores of the Caspian sea to Poland, to England, to France, and thence South and East to Africa, and probably to Arabia. Soon it made its appearance in North America at Quebec, and at Mexico, nearly at the same time. The believers in infection explain all this in a way very natural. Commerce, they say, in a country peopled as densely as India, will of course give to such contagion, its readiest means of propagation. Hence its first appearance in great cities, and the certainty of its appearance on every line of great commercial intercourse. Its contagion, they admit, is weak, allowing multitudes exposed to it to pass unhurt ; but this the more readily accounts for its rare appearance in thinly peopled countries. They admit that the intercourse of individuals seldom gives any evidence of one having contracted it from another ; but the array of facts showing that the arrival of ships, persons, and goods, or armies, from infected places, and the sudden appearance of cholera, have so often been witnessed, that it seems impossible to doubt



the fact of the disease being transported by these means. At the time it made its appearance in Europe, I well recollect the uncontradicted statement of its being brought to Poland by the Russian army; and the surprise I felt at the cholera, with which I had always associated the idea of hot weather, laying waste an army encamped on ground covered with snow. The same idea prevailed with regard to its arrival in this country; and it was stated, that the crew of the ship which brought it to Quebec, were attacked before the citizens of that city. And I believe that it is true, that its course on this continent, has been chiefly, or exclusively, along our great lines of commerce; and especially where the rapid movements of steamboats rendered intercourse most frequent. There is hardly an instance of the appearance of the disease in a thinly peopled district, except in an army, or caravan passing through it. Nor can I forget the early accounts of the hecatombs of the destroyed, which were brought together in India, by mistaken notions of religious duty. The believers in contagion or infection, it must be conceded, have strong facts to sustain their opinions.

The non-contagionists have also facts as well worthy of consideration. They point out many instances of the appearance of cholera in cities not known to have had any intercourse with infected places; of its passing from a city beyond another, to a place, or an army, not known to have had any possible chance of infection from goods or persons; of its simultaneous appearance in distant places; of its attacking all parts of a city, regardless of the intercourse of its inhabitants; and, finally, of the total inefficacy of quarantine regulations to arrest its progress. The question of infection in cholera is yet unsettled; but I will not close this part of the subject, without a single remark of my own. Its field is a crowded population—its mortality is greatest amongst the poorest and most miserable. When a city is attacked, its inhabitants in great numbers instinctively leave it, and thus thin out the inhabitants, by which means, probably, its course has often been arrested. These facts seem to point out the necessity of thinning out an infected population. No fear need, in my opinion, be entertained of spreading the disease by this means. When the ice cracks under a company of skaters; every one's safety is promoted by scattering—if they huddle together, they all sink; and so it is in cholera.

## SYMPTOMS.

General lassitude and debility are commonly felt for some time before the violent attack of cholera. This is attended with flatulency and diarrhœa, with pale, or ash colored discharges. Sometimes they are of a deeper color, and, in a few cases, green or bilious. The disorder in this stage seems trivial, and very often is not revealed to any one; the patient continuing his ordinary pursuits, till the next stage of the complaint supervenes.

Authors have seemed to vie with each other, in the strong terms in which the second stage of violent cases of cholera are described. No longer mild or tolerable, the symptoms suddenly change, as if the attack were a paroxysm. Vomiting and purging, at, or about the same time with, discharges far more copious than are ever seen in any other disorder. The patient's strength fails him in a moment, cramps seize his muscles, commonly in the legs first, but soon extending to the abdomen, bowels, anus, and other parts. The spasm is not with alternate relaxation, but constant—it is a tonic spasm. The discharges, mixed at first with ordinary feces, become in a short time thin, sometimes muddy and offensive; but oftener of a whitish color, resembling rice water, or thin starch; and this, more than any other, seems to be considered characteristic of the disease. Great is the change which happens in the countenance and appearance of the patient, in a few minutes. Prostrate and unable to rise, he lies as one suddenly fainting from a mortal wound. Pale, or rather blue, his sharp and shrunken features are hardly recognised by the most intimate acquaintance; his voice, hoarse and husky, and the smell arising from his body, and from his discharges, are altogether unlike any thing ever witnessed in any other disease. Once seen, heard, and smelled, the countenance, the voice, and the smell of patients in this fearful disease, are never forgotten. So unlike the ordinary attacks of disease, is this sudden attack; and so nearly does it resemble the operation of the most fatal poisons, that in Paris, it was at first attributed to poison, thrown into wells, or distributed in milk, or other food, by some combination of malevolent persons. I recollect seeing it stated in the newspapers, that many who sold milk in the market, were arrested under this charge. This is the more remarkable, as the disease had already done its work in Poland, Germany, and England. The fact, that under these circumstances, and with all that had been said of Asiatic cholera, as it was then

called, before them, the faculty of Paris did not recognise it when it appeared amongst them, may plead loudly in favor of those who make mistakes of one disease for another, in ordinary practice. I do not hold it up as a disgrace to the talented individuals who might be obnoxious to it in this case ; but as a beacon to warn us all against being too positive in a hastily formed opinion.

In the cases presenting the above described appearances, the powers of life speedily give way ; sometimes in a few hours, the pulse fails, the heat of the body is gone, and death closes the scene. Others linger a day, or longer ; but few revive and recover. But it is not always in this terrific form, that we are to meet epidemic cholera. In many cases, perhaps by the use of proper remedies, the premonitory, or first symptoms come on, and gradually pass away without the occurrence of the violent attack. In others, the paroxysm takes place with mitigated symptoms ; and the patient, under a proper treatment, has a well grounded hope of reaction ; and though some fever, a recovery. These mild and medium attacks resemble the attacks of common cholera morbus, so closely that the physician who mistakes one for the other, is very excusable. I certainly have seen common cholera morbus, and dysentery, preceded by a diarrhœa very closely resembling that described as the harbinger of the disease I am now describing. And when the attack of cholera morbus has happened, I have seen almost every symptom of spasmodic cholera which has been mentioned. I have seen the sudden collapse—the pale and shrunken features, but not the blue complexion—the feeble, but not the absent pulse—the copious, and even the “*rice water*” discharges—the spasms, tonic and interminable but in death. These symptoms occur not only in epidemic or Asiatic cholera ; but, as I have said, in cholera morbus, and as the effect of poisons, especially of fatal doses of tartar emetic, or verdigris.

I have said nothing in regard to the state of the mind in cholera. The picture drawn of the disease is truly horrible ; and to beholders of the sufferings of the patient, appalling. But these things seem to be regarded with indifference by the patient—his agony and pain do not disturb the calmness, and apparent indifference of his mind. He seems, indeed, less concerned in the event than any one else.

From all that has been said, I conclude that the epidemic cholera is a disease of the whole system, produced by some cause unconnected with atmospheric influences, so far at least,

as relates to wet and dry, hot and cold : that between the exposure to the cause, and the appearance of the disease, indefinite time intervenes ; and that, in its own time, it attacks by a violent paroxysm : that this paroxysm is, at first, a sinking of the powers of life, with the most enormous throwing out of fluid from the stomach and bowels, that is ever seen in any disease : that, if this shock is withstood, the system rises ; and a peculiar fever, which may end in recovery, takes place : and finally, that the examinations of the dead render it almost certain, that in such as leave the disease to run its natural course, there occurs on the internal surface of the intestines, an eruption very extensive, but not ending in ulceration.

#### TREATMENT.

The only remedy universally allowed to be of infinite value in this disease, is laudanum, or opium in some form. It is given in the forming stage, to control the diarrhœa, in doses of from twenty to one hundred drops, repeated according to circumstances. Various aromatics and astringents are given at the same time, such as ginger, cinnamon, allspice, and many others ; a decoction of galls, or oak bark, or tincture of kino, or catechu ; and some have advised the acetate or sugar of lead, in doses of a grain or two, repeated often if necessary. Laxatives, or emetics are regarded as extremely dangerous ; being thought liable to precipitate the violent attack. Alcohol is thought dangerous, probably because those subject to the intemperate use of it, are often the first victims of cholera. My opinion, from all I have learned, is decidedly in favor of laudanum ; but I should not hesitate to combine with it a portion of good spirit, if the strength of the patient seemed to be giving way ; and this I should prefer to all the astringents and aromatics combined—yet they should not be excluded, if the case did not readily give way. Nor could I fear, in this forming stage of cholera, to give calomel to the extent of from five to ten grains a day—having witnessed its power in controlling analogous diseases, I could not doubt it in this, till fairly convinced by experience.

The next stage or violent attack of the disease, is treated with the same remedies. I recollect to have read the order of an army surgeon to the hospital steward of his regiment, to have his laudanum and water in a bottle, with a glass, holding a dose, I think one hundred drops of laudanum, in readiness, so that when one of the men was taken with vomiting, purging



or cramp, perhaps of the legs, not a moment's time would be lost in administering this powerful remedy. This, I have no doubt, was a most judicious order, and calculated to save the lives of many, who would, in a short time, have run into a fatal collapse. The disease, in this stage, is to be commanded by opium, or the case is desperate. It has been given with scarcely any limit ; and I have known its abuse, in these cases, severely censured. I cannot say the extent to which I would feel warranted in carrying the use of laudanum, if the spasms refused to yield in an hour or two. I should not hesitate to give a tea spoonful, hourly, for three or four doses ; and I might go much farther, if the symptoms were desperate. Calomel, in thirty grain doses, has been much used ; and, I think, combined with laudanum, is by far the best prescription. I should not expect much benefit from the repetition of such large doses of calomel. The influence of these remedies on the system, are of the first consequence ; and if they are thrown up, the laudanum should be given in three times the quantity, by way of injection, or solid opium passed up into the rectum.

Few diseases have had more remedies recommended for its removal, than cholera ; but I cannot say I think the loss would be great, if they were all lost except opium and calomel. Nor should it be concealed, that some who have had experience in the use of these remedies, doubt whether they add any thing to the safety of patients. They aver that about as many recover under other, and decidedly inefficient modes of treatment. This is a sad account of the effect of medicine in this disease ; and I am bound to think it erroneous. If opium, and a judicious addition of calomel, are not remedies in the highest form of cholera morbus, I am ready to give over the use of remedies altogether. The relief from opium is so sure, and so speedy ; and the radical relief from calomel so obvious, that I do not for a moment doubt it. Nor do I doubt the vast importance of these remedies in epidemic cholera, even in its severer forms.

But there are other remedies, which probably ought not to be overlooked. In the violent stage, I have no doubt other stimulants besides opium, are proper. I should try ammonia, camphor, alcohol, ether, or other similar remedies ; sinapisms, blisters, dry heat, warm or hot bathing, and all kindred remedies, have, I believe, been tried to some purpose.

Recoveries from cholera are commonly wonderfully rapid. But in some cases, a fever supervenes, with more or less dis-

order of the bowels. The physician is advised, in these cases, to pay little regard to the previous states of disease which have existed. The symptoms, sometimes, inflammatory, are to be treated on general principles, as an inflammatory fever; (which see) and, in other cases, symptoms of typhus occur requiring its proper treatment also. I should think the previous exhaustion of the patient, would point out the necessity of moderately using depleting remedies; and that time, in cases requiring supporting remedies, should be allowed for their very gradual and moderate use.

Upon the whole, the small amount of reading I have had it in my power to do on this subject, and the reflection I have felt it my duty to bestow on it, have convinced me that, epidemic cholera is to be treated, in the present state of our knowledge, on general principles. No specific, like quinine for intermittent, has been discovered for it. Its symptoms are to be met with the remedies proper for the same symptoms in other complaints; and, as no disease presents greater variety of symptoms, so none admits of a greater variety of remedies. The physician should recollect, that he will not, in every case, meet the collapse and prostration, so much dreaded in cholera. He will sometimes meet a fair pulse, and a warm skin in an early stage of the disease. Here he may, without fear, use the remedies proper for such a state of the system. Here I have no doubt emetics and sedatives, such as ipecac, and antimonial powder, are useful. They have been recommended on high authority; but I think sound discretion, and close attention necessary in their administration. Where a reaction of a somewhat inflammatory type occurs in cholera, I should think the danger very small. I think I have observed in the published accounts of cholera, that the cases which occur on its first arrival in a city, are almost all fatal; and that, before it ceases, the type so changes, that very few of those who take it die. The practice adopted in the outset, is disgraced by its want of success; and that which succeeds it is thought to perform wonders. Probably physicians err in both opinions.

---

### DYSENTERY.

Inflammation of the large intestines, is now universally allowed to be the cause of dysentery. It is true, there are causes preceding the inflammation, or ulceration of the intestines,

some of which we shall notice ; but there is no case in which the remark of Doctor Rush, that the proximate cause of a disease, is the disease itself, is better exemplified than in inflammation, as the cause of dysentery. It is always present ; but under how many varying circumstances, who can tell ?

An "unknown peculiarity of the atmosphere," must be allowed a place amongst the causes of dysentery. It prevails as an epidemic, without regard to the season of the year, the locality of the place, the food or drink of the subject, or the climate of the country it appears in. It is regarded rather as a disease of the tropics, because its general prevalence is more common in tropical countries ; but hot countries are not alone subject to this disease ; for it has often prevailed in almost every part of the United States, and, so far as I know, in all parts of the old world. And in every country in which it has prevailed as an epidemic, it has in turn presented the mildest, or the most formidable aspect. It is doubtful whether we are ever to understand the nature of the atmospheric influence to which the origin of this disease is ascribed. For my own part, I doubt the existence of any such influence in the atmosphere. The spread of the disease appears wholly inconsistent with the idea of its journeying on the winds. Its range is often wide, but still definite. I have several times, when not suspecting an epidemic dysentery, been consulted on the same morning, for patients in various directions, distant twenty miles from each other. The disease was already epidemic, for the attacks of these patients and many others, were all on the same day. Yet it omitted its visits in many places, which the air would not have done. The character of the disease differs widely in different neighborhoods. I have seen it very fatal in a neighborhood ; and mild, or trivial a few miles off. It is not more apt to prevail, in places subject to the annual visits of bilious fever, than in others entirely exempt from it. I have seen it epidemic at all seasons of the year, but most frequently in autumn. It is as apt to be fatal in winter as in summer ; but I have thought its worst features were put on in the fall season. I have seen it precede and follow bilious fever, but never to have any connexion with it, except what seemed to be accidental. The locality presenting the disease in the worst form, has been, in my practice, uniformly on alluvial lands ; but on those lands, it was as bad, and it has appeared to me worse, on healthy, than unhealthy places. This fact I have observed over a country thirty miles in extent, not on river bottom, but on elevated and healthy pine lands, extending across the State of Georgia

immediately below the falls of her great rivers. The primitive lands immediately above these, have never, to my knowledge, presented an example of dysentery destroying many persons.

During the existence of the epidemic cause, many cases arise from individual pre-disposition, or occasional causes. Many are attacked who can assign no reason whatever ; but others will be found to have been exposed to vicissitudes of cold and heat, wet and dry. Intemperance in eating, and far more certainly, intemperance in drinking, will lay the foundation of an attack. I have found children more subject to it than grown persons ; and have witnessed most deaths from it, in children from six to twelve years of age.

Much has been said of the complication of this disease with others. I have never witnessed its complication with any other disorder, of the whole system. In those who have local disorders, of the intestines, liver, bladder, or kidneys, I have found it apt to be inveterate, and frequently fatal. All such disorders, especially those of the liver, are greatly aggravated by an attack of this disease.

Dysentery is a disease of frequent occurrence, independent of any general cause. The occasional causes mentioned above as causes of it when the disease prevails, are often known to produce it at other times. Many persons are subject to frequent attacks of it, and local diseases are often known to produce it.

When it occurs from occasional causes, and is unconnected with local diseases, dysentery is a mere inflammation of the great intestines. It will commonly of itself subside, and disappear, in three or four days. I have known many cases terminate thus, without the taking of any remedy. Where the disease arises from any local disorder, its symptoms and danger depend on the character of the cause. Where it arises from an epidemic cause, it has a crisis, as well as other diseases. I have seen it, at such times, terminate in three days ; but it oftener extends to eight or nine, where the treatment has not been efficient. I have no doubt that in these cases, a peculiar inflammation attacks the colon, and perhaps some portions of the intestine above and below it ; and that it does, in its own time, produce its peculiar ulceration, or other disorder. That, like small-pox or measles, it has a regular healthy termination ; and that, in mild cases, the ulceration, or other disorder, will spontaneously heal. That, like those diseases, the violence of dysentery will often produce death ; and, like them, it often



leaves, lesion, or ulceration, which may continue for a great length of time, destroying the health and undermining the constitution.

#### SYMPTOMS OF DYSENTERY.

Flatulence and oppression about the stomach, succeeded by a diarrhœa, with copious discharges from the bowels, are commonly the first symptoms of an attack of dysentery. Pain in the abdomen succeeds, and is attended with violent straining at stool, as if there yet remained something more to be discharged. Mucus, or jelly begins to make its appearance in the discharges; and, by degrees, becomes the principal matter discharged. Blood commonly flows with the mucus; and, in some instances, seems to be distinct—in other cases, the mucus is stained and bloody; but in others, where the disease is equally severe, there is no appearance of blood in the discharges. As the disease progresses, the torment increases. The patient is compelled to go to stool more frequently—often hardly reaches bed before he is again compelled to rise—natural discharges cease altogether—fever supervenes—the stomach, disordered in the outset, becomes sick, and the loathing of food becomes so great, that the sight or smell of it causes vomiting, or rather straining to vomit.

These symptoms are too plain to be mistaken; but there are cases in which symptoms of diarrhœa, with free discharges, continue all the time—producing alternate passages of mucus, and common, or other feces. By degrees the mucous discharges cease, and the case terminates as it began, in common diarrhœa.

The variety in the symptoms of dysentery is still very great. In some cases of high grade, the attack is not preceded by diarrhœa, but comes on with tormina, and depression, followed by fever; commonly inflammatory, but often typhoid. This last form, I have oftenest seen in winter. Dry tongue, trembling pulse, incessant discharges of mucus or blood, without any natural discharges, announce danger. I have never seen it infectious.

#### TREATMENT.

Calomel, or some preparation of mercury, forms the basis of all proper or scientific treatment of dysentery. In common, or inflammatory cases, it should be promptly given in full doses—from ten to twenty grains. Time must be given for its operation—from ten to twelve hours, and, if it has not pro-

duced free and natural discharges in that time, give castor oil, or some other mild cathartic. Rhubarb, and magnesia have been recommended; and I do not object to that prescription. I was once with a detachment of the militia of this State, in which there occurred fifty or more cases of dysentery. The medicine chest was soon exhausted of calomel; and Glauber's salts at length became the only cathartic left. It was given without reserve, and not a case of death happened. Laudanum was freely used in these cases.

Ipecac is the next remedy I should resort to. So much has been said for and against this remedy, that I offer my experience with hesitation. I give it in full doses to produce vomiting, in the early stage of the disease; and, in broken doses, say two grains in a pill once in an hour or two, when the case has continued for a day or two. It should be persisted in till the proper, or bilious discharges, are brought on. Next to calomel, this is by far the best remedy I have tried for dysentery. The sickness of the stomach, and vomiting it produces, are so much objected to by patients, that I have, of late, not so frequently used it. But to those who have a great dislike to calomel, I commend ipecac.

Opium comes in next. It should not be given at first, unless the pain is intolerable; but, in that case, give it with the calomel; a grain of morphine, three or four grains of opium, or eighty to one hundred drops of laudanum, may be given. Its great use is in allaying pain; and, I think, to remove cramp or spasm from the bowels. In some cases, when the attack first comes on, a full dose of laudanum will put an instant end to all the symptoms.

Bloodletting and leeching have been highly recommended. There can be no doubt that bloodletting is a valuable remedy, in cases with extensive or violent inflammation. I have seldom, however, found it necessary to resort to it; and have observed that the most dangerous cases were those which seemed least to require it. Leeches, I should also think a valuable remedy, where the local inflammation was considerable. But the maxim of Broussais that to apply leeches to the anus, is to annihilate this disease cannot be maintained with truth. In fact this maxim, like others offered in support of a favorite theory, is better qualified for harm than good.

As soon as a thorough and free discharge of the bowels is effected, relief is almost always obtained. Even in cases in which diarrhoea is present, and there is every appearance of excessive discharges, the peculiar cathartic operation of calo-

mel is equally beneficial. But the disease commonly has only yielded in a temporary way. In less than a day its course is resumed, but commonly in a milder form. The same remedy, in quantity proportioned to the circumstances, is now to be repeated. And should it be requisite a third time, or even oftener, I should have no hesitation in administering the same remedy.

Some caution should be observed in continuing this course of mercurial treatment; or a salivation may, without necessity, be brought on. I have never known this occur, from the use of a single dose of calomel, nor from the second dose, if due notice is taken, that within twenty-four hours, free discharges from the bowels are brought on. The third and fourth repetitions raise the question, shall a salivation be hazarded? In grown persons, I have no hesitation in using the calomel—in children I have more hesitation. Candor requires that I should state, that in a case of this disease under my own treatment, in a child five years old, a fatal mortification of the jaw occurred after using two doses, in all, about twelve grains of calomel. Both these doses were in due time followed by castor oil, and it was reported to me that free and full feculent discharges were brought on. This report of the nurse I had afterwards reason to doubt. It is also proper that I should state, that in this case, the usual symptoms of salivation were not present; and that a blue spot on the cheek, which run rapidly into mortification was alone present. I may also state, that my friend Doctor White, who was called in consultation, was of the opinion that this case of mortification, was not the effect of the calomel which had been taken. This is the only case, in which I have ever thought I had reason to regret the use of calomel in dysentery. I have since used it with more freedom than before; and have no hesitation in stating, that my whole experience warrants the decided preference I have given it, over all other remedies in dysentery.

Under this treatment, this disease will commonly yield in three or four days, and seldom continue beyond the ninth. But if it continues longer, it begins to be considered chronic, and requires a modified treatment. No precise rule can be given for deciding a dysentery to be chronic. If the fever attending the first stage has given way—the extremities cold, or, at times, burning as in hectic fever—the discharges mixed with pus, or clear blood unmingled with any thing; if the pulse is small, although sometimes hard—and these symptoms, with tormina, tenesmus, and other symptoms of local irritation, con-

tinue from day to day, with little amendment, the case is to be considered chronic. These symptoms denote ulceration, or some disorder of great irritation of the lower intestines. In its nature it is of course incapable of being suddenly arrested. But there is reason to believe, that, in many such cases, the ulceration is not unhealthy ; and that it will readily heal. In most cases, however, the ulcers prove untractable, the disease inveterate, and, in many instances, fatal.

The remedies recommended in the acute stage, are useful in the chronic stage of dysentery. They are, however, to be given under rules adapted to the altered circumstances. Calomel is no longer to be used in heroic doses, and there is high authority for discontinuing its use altogether. I am in favor of using it, but in small, or alterative doses. From two to four grains a day will be sufficient. If the case is complicated with diarrhœa, there will be still no objection to the calomel—if the bowels are ulcerated, however extensively, I cannot think of making this a reason against this remedy. On the contrary, I have seen calomel so often control diarrhœa, and remove irritation from the lower bowels, producing the most comfortable and least irritating discharges of any remedy I have ever used, that I recommend it strongly in chronic dysentery. To what extent it shall be carried, is a question for the sound discretion of the practitioner. In general, I should avoid producing salivation ; but I should fear no particular ill if it should occur.

Opium alone, or combined with ipecac, deserves great confidence in this stage of dysentery. Dover's powder is perhaps the best preparation for this purpose, and may be given in doses of from five to fifteen grains, twice a day. Laudanum, or morphine may be substituted in equivalent doses ; but I object to repeating the remedy oftener than twice a day, and should prefer a single efficient dose to the use of it oftener, if the quiet and ease it is intended to produce, can be as well obtained by a single dose. In every case of dysentery, opium used to allay pain, is best administered in efficient doses, at long intervals. In this way, it may be safely administered in the most inflammatory cases, especially with calomel after bloodletting—and where bloodletting is not demanded, it is still more safe and useful. For the inordinate and protracted distress which commonly attends this disease in its last stage, there is certainly no remedy equal to opium.

The diarrhœa which frequently attends chronic dysentery, is sometimes not relieved by opium ; and astringents of vari-



ous kinds have been used. The best of these, I have no doubt, is sugar of lead, alone, or combined with opium. From three to six grains of sugar of lead, may, in this way, be given daily, for many days. I have often used it, and never with any unpleasant consequence, but often with obvious benefit. Tannin, the decoction of oak bark, kino, catechu, and many other vegetable matters in which tannin abounds, may in their turn, be tried.

Injections have their place in the treatment of dysentery. The irritation of the rectum cannot, in my opinion, be benefited by enemata, except from their medical qualities. Opium, administered in this way, is often very useful; and sometimes, when rejected by the stomach, is used in injections with benefit. Three times the laudanum that would be required by the mouth, may be used, with a few ounces of water, in this way. A pill of opium of five or six grains, forced into the rectum, seems also to answer a valuable purpose. Sugar of lead may also be used, in this way. Twenty grains, dissolved in three or four ounces of water, combined, if necessary, with opium or laudanum, may be given once or twice a day, as an injection.

Cold water, thrown into the bowels as an injection, and frequently repeated, and also applied over the abdomen with wet cloths, has been recommended; and I have no doubt it is, in many cases, a beneficial treatment. But I have no belief that it can ever be used to the exclusion of calomel, although I think there is no danger in using both at the same time.

But little need be said on the subject of diet and drink, in this disease. The patient commonly loathes food, and the stomach rejects drink. Neither is necessary or beneficial, in the first stage of the disease. But when the case continues for many days, a degree of thirst arises, and food is no longer rejected. The food least stimulating, and easiest of digestion, is to be preferred. Rice, or arrowroot, is perhaps the best article; but others in abundance will readily suggest themselves to the mind.

Water is to be used in preference to every other article of drink. Let the quantity taken at any one time, be small, and the whole amount taken be not very large; but avoid the error of supposing that a little gum, or a mild aromatic, can make of water an improved article of drink. The idea, that demulcent, or mucilaginous drinks, can be brought in contact with the inflamed surface of the bowels, is of course childish. In the stomach, or small intestines, these matters are taken up, or

so altered, as no longer to be the bland and agreeable substances they are thought to be. The too free use of them may do harm ; but no use of them can afford any benefit, except from their nutritive, or stimulating qualities.

---

## DIARRHŒA.

Very frequent, or very profuse, thin, or watery discharges from the bowels, constitute diarrhœa ; and so mild and harmless is it, in many instances, that it cannot be considered as a disease : but these symptoms also attend a state of the system so formidable and alarming, and at the same time so insidious, that they are to be regarded by all with apprehension.

I shall, for the sake of perspicuity, divide diarrhœa into, *acute* and *chronic*, excluding from under this head, the diarrhœa which occurs in many diseases, such as typhus fever, or consumption of the lungs. Nor shall I dwell longer on this division, than to state, that I mean no more by the term *acute*, than a disease of shorter duration, arising from some occasional cause ; or by the term *chronic*, than its longer continuance.

### CAUSES OF ACUTE DIARRHŒA.

It is true, that the heat of summer, when united with unusual exposure and fatigue, and sometimes sudden emotions of the mind—*anxiety—fear, or grief*, will bring on those frequent and copious discharges from the bowels, known by the term diarrhœa ; but these constitute so small a portion of the attacks of this common disorder, that they hardly deserve notice. The great, and almost universal cause of this mild form of diarrhœa, is to be sought for in the articles taken into the stomach—it is caused by diet and drink. The stomach being overloaded with food, will, sometimes, be excited to vomiting ; at others, run into spasm, and violent colic ; and at others, imperfectly digest its contents, and pass them into the bowels, when, with a great augmentation of fluid, from the liver, or other sources, they are hurried on, and expelled, without pain or sickness. This is diarrhœa in its mildest form ; and, it will be known to every one without further description. But other causes often come in, in aid of illy digested food ; or perhaps it is more true to say, to hinder the perfect digestion of the contents of the stomach. For I hold it to be nearly impossible,

for a diarrhœa in this mild form, to happen, if the stomach performs its office of digestion, perfectly. What can look more like intelligence, than the operations of the stomach and intestines in this case? Food or drink, improper or excessive, is taken into the stomach—which finds its powers of digestion insufficient to reduce it to healthy chyme—the mass, half reduced, is hurried on—the bowels find its qualities too bad for assimilation—violent action takes place, and it is quickly expelled. Nor is the food, or offending matter alone expelled, every emunctory of the intestinal canal is brought into requisition—their fluids also, are thrown in, and expelled, so that no part of the rejected matter shall, by possibility, be taken into the system. The production of a common diarrhœa, is conservative.

Many persons are so subject to attacks of diarrhœa, that they are frequently affected from slight irregularity in diet, and sometimes, when no irregularity can be detected. In most cases, the imprudence in eating and drinking, is obvious. The common food of this country—salted meats, milk, butter, and bread of corn or wheat flour, rice, garden vegetables, or farinaceous roots, with tea or coffee, will, if taken in moderation, hardly ever produce diarrhœa. But add to these, fresh fish, fowls, pastry, and especially crabs, or other shell fish; and give, with all this, over fatigue and strong appetite, and the production of this disease is almost a matter of course. Putrid food, birds strangely fancied by epicures, when kept too long in the feathers, and putrid effluvia, are said also to produce this disease.

The most frequent attacks, which I have seen of this complaint, have been in persons, who, after a brisk journey of two or three days, have stopped at a hotel, furnishing a sumptuous table every day. Excess in eating and drinking, perhaps, of water alone, will soon produce diarrhœa. The patient uniformly charges it on the quality of the water, which though it be abundantly preferable to that he uses at home, is new to him, and better able to bear the blame, than the food which he has, in his own opinion, taken in moderation.

Drinks and fluid aliments are, unquestionably, a frequent cause of this disease. Buttermilk, which, in this section of the country, is made from milk, and not from heated cream, as in some other places, is by many taken as a favorite dessert at meals. Others equally fond of it, cannot use it, because of its constantly producing diarrhœa. Cider, when newly pressed, is often productive of the same effect.

## CAUSES AND SYMPTOMS OF CHRONIC DIARRHŒA.

There can be no doubt, that the frequent recurrence of diarrhœa, in the same person, from the causes above mentioned, may frequently produce the disease in its chronic form. The cases which I have witnessed, however, do not authorise the assumption of these, as the most frequent causes. There is something, unquestionably, beyond these occasional causes, necessary to produce the aggravated forms of diarrhœa I have witnessed. These cases have not in their commencement, been distinguishable from common diarrhœa. A few days have been sufficient, to excite a reasonable fear, that the attack was not likely to pass off so easily. Some fever, great thirst, and a tenderness and tumid feeling of the abdomen, showed an active state of the disease, if not inflammation. The failure of remedies, and especially the aggravation of these symptoms by opiates, disclosed their character, and time soon confirmed their chronic tendency. These attacks, I am sure in some cases, have not arisen from any irregularity in eating or drinking. They may have arisen from a disordered state of the stomach, or other disease of the intestinal canal, previously existing. But I suspect there are many cases, arising from causes existing in the place of residence of the patient. I have never known it to be epidemic; but, if I am not greatly mistaken, it is much more frequent in some localities than others. The city of Richmond, and the valley of the James river, are said to furnish more cases, than places elsewhere, with many times their population. The States of Alabama and Mississippi, have furnished me with more cases than accident can, in my opinion, account for.

But from whatever remote cause chronic diarrhœa may arise, a disordered state of the stomach, and a highly diseased state of the intestines, attend it. It cannot always be said to be dyspepsia; for sometimes the food passes through the stomach without producing pain or uneasiness. I do not believe it is well digested; but I can offer no proof of the correctness of this opinion. Nor can the exact time at which it loses the character of acute, and becomes chronic, be assigned, if it were material. Time soon settles the question; and fever, sometimes, decidedly hectic, and great emaciation follows. The discharges, still frequent, become less copious; and straining, with a disposition to remain long on the close stool, point out the diseased state of the intestines. Dissections after death, disclose the great extent of ulceration, which previous



discharges of pus had rendered almost certain. Sometimes the ulceration is extensive, and at others, in small patches ; sometimes with broad, and at others, exceedingly small and numerous pustules. The ulcers are, in a few cases, so near the anus, as to admit of easy inspection, and application of remedies ; but the disease is generally seated in the ileum, or lowest of the small intestines. In all the cases I have seen, the action of the bowels seemed to correspond with the times of taking food. Sometimes the passages were so frequent, as to render this less obvious ; but at others, the bowels were in some degree quiet, till time had been allowed for the food taken to pass through the stomach, when the pain, tormina, and frequent discharges would begin.

#### TREATMENT OF ACUTE DIARRHŒA.

There are few persons, who, on being attacked with the mildest form of this disease, will desire any remedy. It will, in such cases, perform its own cure, and may be safely trusted to do so. But in cases a little worse, tending to the higher diseases, cholera ; or the more inflammatory dysentery, remedies become necessary. If the evacuations have been full, and continued for a few hours, give a full dose of laudanum, say sixty drops. If the case seems slight, a less dose will answer ; and this will commonly terminate the case. But if it lasts for twelve hours, give five grains of calomel, and ten of prepared chalk, together, or separate. Give nothing more, unless the disease continues till the next day, which it will hardly do.

#### TREATMENT OF CHRONIC DIARRHŒA.

In no case is the skill of the physician of more importance, than in this formidable disease. Besides the cases resulting from other fatal diseases ; diarrhœa, when existing alone, often rests on organic diseases necessarily fatal. But there are many instances in which this is by no means the case, and in which skill and proper remedies reap their noblest reward.

*Proper food.* Let no absence of the common symptoms of dyspepsia, hinder the adoption of a regimen of the strictest kind. Let that only be eaten which is easiest of digestion, least stimulating, and most thoroughly taken up, after digestion. Thus you will lessen fever, supply nutrition, and protect the lower bowels from unnecessary action. These desirable qualities cannot all be supplied in any one article of

food ; but we must keep the great objects already mentioned constantly in view. It is not a mere dyspepsia, but a far more inflammatory disease, of which we are treating. Therefore, use bread in preference to meat. The bread should be of fine flour, not unbolted ; but it should be stale, or unleavened—that is, crackers, hard biscuit, or something like it. These may be eaten in any manner, that is, dry, or with boiling water poured over them to make them soft. Rice deserves perhaps the first place amongst bread stuffs, and needs only the simple process of boiling. I consider these the best ; but some variety is necessary in a disease so tedious, and I have allowed Irish potatoes, and bread of other descriptions, carefully guarding against a repetition of them, if found not to agree with the patient.

If any animal food is allowed, chicken and small birds, doves or partridges, answer best. The patient should be much better, before the flesh of large animals is allowed. But animal jellies, and milk, should be tried, unless the inflammation and fever are great. Buttermilk would seem to promise little ; but I have seen one of the worst cases I ever knew cured, grow rapidly better while the food of the patient was only buttermilk and stale bread. I object to animal soups, having found them decidedly hurtful, even when most agreeable to the patient. Salt is not to be left out of the food of patients, in this complaint ; but I have nothing to say in favor of spices, or other condiments. I have known a patient who took two grains of cayenne pepper in a pill, complain that it burned him like fire, through the whole intestinal canal.

It is impossible to detail the variety of food which may be allowable ; but the patient must be exhorted to adhere closely to his regimen ; and I am decidedly against his eating more than twice a day—breakfast and dinner. If any thing at supper, let it be a cup of black tea, without bread. A gentleman used a little sugar and milk, with boiling water poured on it—the hot water tea of our nurseries—and found it greatly preferable to black tea, or any thing else he had tried. He had contracted the disease in Alabama, has had it many years, and is still, I believe, a sufferer.

*Clothing.* The healthy function of the skin is greatly interrupted in this disease ; and its dry, tawny, and sometimes ashy appearance, points out the necessity of warm clothing and flannel, to keep up, by gentle friction, the insensible perspiration. The useless, or hurtful visits so frequently paid by these patients to watering places, admonish us to avoid exces-

sive ablutions ; but when the disease has not already produced ulceration of the bowels, and is kept up by indigestion, a guarded use of warm bathing, with friction on the skin, may be beneficial. These remedies should not be continued unless found manifestly beneficial.

In connexion with food, it is proper to add a word on the subject of the frequency, with which patients in diarrhœa, have acidity of the stomach. Sometimes the acid, from its irritating quality, seems to cause the frequent discharges from the bowels ; at others, it seems to attend a temporary costiveness, which is not uncommon in this disease. In either event, it is to be avoided, if possible, by great care in taking only such diet as has not been found to produce it. But if the acid is found to be present on the stomach, lime water, or prepared chalk should be taken according to its intensity. I object to magnesia, or Seidlitz powder, or any neutral salt in this case.

Exercise is not to be considered a remedy for diarrhœa, farther than it promotes digestion, and invigorates health. But it is easily perceived, that, in a disease so full of irritation, and productive of fever, this remedy is of very limited application. It is, therefore, to be moderately and sparingly used.

Leeches and blisters must be mentioned, in the account of the remedies for diarrhœa. They are useful in the early stage, when the local irritation first manifests itself, and should be applied as near the seat of the irritation as possible. I doubt the great importance, which some have attached to the application of leeches near the anus, in preference to any point near the seat of the inflammation. I cannot say that I have tried it sufficiently to decide the question ; but I think it not material.

*Purgatives*, would seem to be properly forbidden in diarrhœa ; but experience warrants a guarded use of them, in the first stages of the disease. Rhubarb, magnesia, and the neutral salts, have been used, in some cases, with advantage. They seem to assist in the removal of offending matter from the bowels, and operate perhaps more beneficially in changing the state of the secretions thrown into them. They are to be administered in small doses, and not too frequently repeated ; and they are, especially, not to be allowed to operate excessively ; but are, in all cases, to be checked by laudanum, in doses of twenty or thirty drops, repeated if necessary.

Calomel, has been too much used, and is too important a remedy in diarrhœa to be passed over without particular notice. It is obvious that it cannot cure the organic injuries, many times found in the viscera of patients who die of diarrhœa ;

but the exact nature of these, is seldom known before death ; and the physician who allows his patient to sink under chronic diarrhœa, without giving him a fair trial of this invaluable remedy, assumes, as I think, a fearful responsibility. It is true, I have seen some who could not take calomel, even in small doses, without exciting the bowels to violent action, producing many and wasting discharges ; and I have, in a few instances, seen the same patient, without any obvious cause, after a few weeks spent in using other remedies, return to this, with the greatest advantage. A salivation I think is generally unnecessary, and it is, in these cases, not easily brought on. I prescribe calomel alone, or with opium, especially with Dover's powder ; say ten grains of calomel, with thirty grains of Dover's powder, to be divided into six doses, and taken in the course of three days. This may be done early in the disease ; and in cases of long standing, the same remedies given in smaller doses, at longer intervals, have been found effectual. The benefits of calomel are seldom felt, unless it produces its peculiar discharges of thick bilious matter from the bowels. These seldom fail to bring with them great relief—they are to be noticed, as the signal of suspending, or greatly reducing the quantity of the remedy administered.

Opium is a remedy of great value in diarrhœa. In the first stage, I have no doubt it often checks, or cuts off the disease which, without its use, would become chronic, and sometimes fatal. It is to be administered, in large doses at long intervals—from thirty to sixty drops of laudanum, once or twice in twenty-four hours, is commonly sufficient. But in this lingering disorder, in the whole course of which opium, in some form, will be found necessary, the doses to be given, the time of giving them, and the preparation of the article which may be used, admit of infinite variation ; and must be regulated by the judgment of the practitioner, and the experience of the patient.

Astringents, from their known quality of suppressing discharges, must have a prominent place in the treatment of diarrhœa. Oak galls, the most powerful of the vegetable kind ; and, in my opinion, the most valuable, may be given in powder, from five to twenty grains at a dose, two or three times a day. It may also be given in decoction, made by boiling half an ounce of coarsely powdered galls in a quart of water, and giving a table spoonful at a dose. A remedy essentially the same, may be made by boiling about two ounces of pounded red oak bark, in the same quantity of water, for a quarter of an hour, and giving the same quantity at a dose. Kino and catechu



are remedies of similar properties, and may be given in powder, in doses of from ten to twenty grains. They are conveniently administered in syrup. An infusion may be made of either of these articles by pouring on half an ounce of it, a pint of boiling water, and pouring off the dose from the vessel without shaking. A table spoonful, or half an ounce, is the dose. Many articles might be added to this list; but I fear it would be less improved than enlarged by it. Yet it must be confessed, that in this class of remedies more than in others, a weaker seems to succeed at times, after the strength of the stronger, has been tried in vain. I knew an obstinate diarrhœa, which had resisted the strongest mineral and vegetable astringents, yield promptly to a decoction of the root of bear grass, (*yuca filamentosa*) taken in doses of half an ounce, three or four times a day.

Of the mineral tonics, acetate of lead probably deserves the first place. It may be given in doses of from one to five grains, two or three times a day. It is unattended with danger, and has often been hindered from producing its beneficial effects by the over prudent practitioner, giving after it, purgatives of various kinds, to prevent a possible attack of painter's colic, which is thought to arise from taking lead. Experience has at last rendered it almost certain, that this preparation of lead never produces this disease. Sulphate of alumine, (common alum) is also a valuable astringent, and may be safely given in doses of thirty grains or less.

On the use of astringents in diarrhœa, I have to remark, that they are the most uncertain of remedies. That given in over doses, they are often active purgatives themselves; and when they succeed in suppressing the discharge, it is apt to be done too suddenly, and to be productive of various ills. The worst of these is dropsy, which, I have no doubt, is often the inevitable sequel of the complaint, but sometimes, I fear, precipitated by too early and free use of astringents. My practice is, to forbear the use of astringents, while the presence of fever might render their administration questionable—to administer them in small doses, and at long intervals; and to give opium, or some of its preparations, at any time the remedy seems indicated, regardless of the use of astringents at the same time.

The aphthae, and sometimes very different eruptions on the tongue, and in the mouth, are best treated by the application of a solution of thirty grains of lunar caustic, in an ounce of water. This should be applied once in two or three days, with a camel hair pencil, or some similar instrument. Similar ap-

pearances around the anus, or within, if they can be exposed, are to be treated in the same way.

Almost every remedy which has been mentioned in this disease, may be administered by way of injection, if from any cause, it is thought preferable. The dose given in this way, is three fold, and should be given in as small a quantity of fluid as practicable.

---

## DISEASES OF THE CÆCUM.

About three inches of the commencement of the large intestine, having attached to it a process not much differing from the little finger in size and length, is called cœcum.

Its diseases had not attracted much attention, till they were taken up by Doctor Copland, who, with his usual ability and research, has shown them to be too important to be omitted, in any treatise on the diseases of the alimentary canal. The alimentary matters taken into the stomach, having been digested, and, in their passage through the small intestines, divested of their nutritive portion, are passed into the cœcum by an opening in its side, the end having no opening, or as anatomists express it, being blind. A valve near this opening shuts off all connexion between this matter and the small intestines, through which it has just passed. It is now feculent or excrementitious, acquires its peculiar odour, becomes of a darker color, and, for ought that is known, might be advantageously discharged from the body. The cœcum, situated in the right iliac region, near the groin, with one of its openings in its side, and the other a prolongation of itself, has a great resemblance to the stomach in its figure; and writers have fancied there was here performed, an important additional digestive process. But of this there is no proof. I consider this part of the intestinal canal, as a mere reservoir of excrementitious matter, enlarged, as well as the rest of the large intestines, for the convenience of the individual, enabling him to retain these matters to a convenient time for their discharge. The principal change they undergo in their passage through the large intestines is the loss of their fluidity, so that in a healthy individual they are discharged in a state approaching to solid. The course of the great intestine, from the blind head of the cœcum, is upwards, arching over by the pit of the stomach, and passing down on the left side. Its contents, while the in-

dividual is in an erect position, must flow upwards, against gravitation. They are fluid, and require the perfect action of the intestines for their removal. Small hard substances incautiously swallowed sometimes lodge here. Cherry stones, and other similar matters, have been known to produce much injury by their accumulation at this point. But the most common cause of disease, from the detention of foreign matter in the cœcum, is costiveness. The accumulations that sometimes happen in this way, are very large, and produce inflammation and its consequences. These disorders we intend to consider in this chapter, leaving the diseases of this organ which may arise in dysentery and other diseases, to be treated of under their proper heads.

#### EXCREMENTITIOUS ACCUMULATIONS IN THE CÆCUM.

Costiveness is, I have no doubt, much oftener attended with great accumulations of matter in the cœcum, than is commonly supposed. I have not thought it important, in slight cases, to examine the state of this intestine; but when from the recumbent position of my patient, I have found it convenient to do so, I have not failed to examine the cœcum, and the ascending colon, as it arises from it. And I have frequently found a great accumulation of hardened fæces, with some tenderness of the part which had not been noticed by the patient before. Nor had any pain been felt in the part. The examination under these circumstances is very easy, if the muscles of the abdomen are relaxed by the patient lying with the knees drawn up. If there is not too much corpulency, the intestines can be plainly felt, like a stuffed sausage. A little friction, with gentle pressure on the part, will often cause the contents of the intestine to pass forward, so that in five or ten minutes it can no longer be felt. I have felt air, pass on instantly from pressure, so as to remove the tumour immediately.

When the accumulation is a little greater, it is felt as a more extensive doughy enlargement. The right side is more prominent than the left, and symptoms of disease occur. Violent pain, and colic in its worst form, are said to attend the worst cases of fœcal accumulation in this part.

#### TREATMENT.

Cathartics will of course be sought for to remove the accumulation of fœcal matter from the bowels. The best by far is calomel. Give twenty grains in syrup; and, six hours after-

wards, begin with a wine glass of senna tea, with a tea spoonful of Epsom salts every two hours, as long as it may be necessary. If the case is of long standing, and the patient weak, the salts are to be left out, and the senna tea given at longer intervals. It is seldom necessary to give any stronger remedy.

But there have occurred cases, in which the accumulation of *faeces* in the cœcum have become very great, and yet no alarming inflammation of the part has occurred, leaving the physician full time to procure their discharge by the safest means in his reach. In these cases, medicines pass the bowels, and the physician is often deceived, supposing that a thorough evacuation has taken place. The case becomes more distressing—the stomach rejects whatever is taken, and, at length, extreme danger would arise. In such cases, Doctor Copland judiciously advises the use of injections, containing castor oil, soap, or other solvent materials. These should be used in very large quantity, and retained in the bowels as long as possible, and repeated, from time to time, till the effect is produced. The physician should recollect, that after calomel, or calomel and opium in large doses are given, the injections are the main reliance. They are to be persisted in while a hope remains. The accounts given by authors of the quantity of hardened *faeces* dislodged in such cases is truly astonishing. I have never met with a single case of extraordinary amount, or of any other foreign body besides *faeces*, in these cases. But I have seen, after the faithful administration of these means, a discharge of *scybala*, or balls of hardened *faeces*, which recurred from day to day, for two or three days, leaving the bowels in a state of great weakness, and the patient prostrated in a remarkable degree.

#### INFLAMMATION OF THE CÆCUM.

The varieties of inflammatory disorder which may attack the cœcum, do not appear to me to reward the diligence of Doctor Copland, in unravelling their intricacies. Independently of the uncertainty which must ever rest on the attempt to demonstrate, whether the inflammation is of the vermiform appendage only, or of the inner coat, or whole substance of the tissue, it appears most useful to divide this disease into its chronic and acute forms. Nor will this division relieve us altogether of the intricacy of our subject; for the acute form will seldom occur without a violent attack of colic or ileus; and the chronic will as uniformly be attended with constipation. But



so far as I can, I shall point out the symptoms and remedies of inflammation of the cœcum, in the two forms mentioned.

#### ACUTE INFLAMMATION OF THE CÆCUM,

From whatever cause, produces "violent pain in the right iliac region"—near the right groin; "and is frequently attended with a burning sensation, and a most exquisite tenderness." Fulness in the right, and lower portion of the abdomen, and a sense of numbness extending downwards to the thigh, are a common attendant of this inflammation. The pain may often extend above and across to distant portions of the abdomen; but they are still fixed at the point above described as the situation of the cœcum. These symptoms may occur in dysentery, or in colic; but they may also occur when neither of these diseases is present, and terminate as a common inflammation, by abscess, or resolution, or gradual decline.

#### TREATMENT.

Acute inflammation of the cœcum, is to be treated upon the general principles of treating inflammation. Bloodletting, with leeches and cold applications to the part most affected, are to be used and persisted in, till the symptoms give way. Cupping is as available as leeches, and not less beneficial in its effects. If the disease proves obstinate, general bleeding should be discontinued after the first or second time, and leeches and cupping continued, according to the strength of the patient. Cold applications by means of cold water will also have a powerful effect in removing this complaint. If the case is still further protracted, a blister should be applied over the most prominent part of the abdomen, or the point nearest the pain. The internal remedies which should be used, will be very much controlled by the state of general disease, or other intestinal disorder which may be present. If it be dysentery, or colic, neither disease will be well treated without full doses of calomel; and the inflammation of the cœcum will not forbid it. If neither of these diseases is present, the remedies most proper will vary a little. Antimonial powders, each containing one fourth of a grain of tartar emetic and ten grains of salt petre, may be given, from four to eight in twenty-four hours, according to the urgency of the case. Vomiting and sickness at the stomach do not forbid the use of this remedy, unless the strength of the patient is greatly exhausted. Nor should this

remedy be too readily given up, from appearances of nausea and debility. I have seen it, even when it produced occasional vomiting, afford great relief from a tormenting nausea. But should the tartar emetic prove too irritating to the stomach, let it be left out, and the powder of nitre alone used.

#### CHRONIC INFLAMMATION OF THE CÆCUM.

This is an insidious disease, depending most frequently on a loaded state of the organ, from costiveness; but, in other cases, tending to ulceration. The patient loses flesh, and feels occasional pain in the region of the cæcum. Pains resembling colic are also felt in other parts of the abdomen—the bowels become irregular, sometimes being constipated, and, at others, having offensive fluid discharges. The examination of the abdomen presents nothing remarkable till we reach the right iliac region, “where pressure occasions uneasiness, and a deeply seated fulness and hardness are usually detected.” Ulceration is attended with dark, offensive, bloody stools. When the inflammation is attended with no ulceration, the disease is less dangerous; but ulceration, if brought on by slow and insensible degrees, is extremely dangerous.

#### TREATMENT.

If the disease is attended with costiveness, or the presence of other foreign matter, the first consideration is to be given to its removal. Injections form the safest means of accomplishing this, and should be used with great perseverance. Success can hardly be reckoned on without a full dose or two of calomel. But having once freed the cæcum from indurated feces, great reliance may afterwards be placed in injections for preserving proper evacuations. The object will be to preserve a proper activity of the bowels, by the mildest possible means. But this will not hinder the use of salt petre, in doses of ten grains, from four to six times a day; and there are few remedies in which I should place more reliance, in this disease. The use of leeches, cups, and bloodletting, will depend on the strength of the patient. They are the best of all remedies for the removal of local inflammation. This disease, when it does not give way under a well regulated diet and proper state of the bowels, will offer no great hopes under other treatment. But I should never rest satisfied in this case, till my patient had a fair trial of a gradual, but decisive use of mercury. It

should be applied in ointment, over the affected part daily ; and from two to four grains daily given in pills, till a salivation is brought on. No state of despair should hinder this trial of a great remedy.

---

### CONSTIPATION—STEGNOSIS.

Constipation has been defined—"A state of the bowels, in which the evacuations do not take place as frequently as usual ; or are inordinarily hard, and expelled with difficulty." This, within certain limits, cannot be considered a disease ; and different individuals, or the same person at different times, will enjoy health under very different states of the bowels, in this respect. I have known persons who had evacuations twice daily, and others not having an average of one in three or four days ; and yet neither seemed to suffer the slightest inconvenience. The healthy standard may, however, be set down at a daily evacuation ; and I think the morning the best, and the safest time.

The great variation of food, in quality and quantity, which the stomach is compelled to digest, and the bowels to assimilate or expel, may readily be supposed capable of producing many disorders of these organs. Costiveness, perhaps the most frequent of these, is, in itself, a small evil in comparison with others which arise from it. But from its frequent occurrence and long continuance, its complicated relations, and, in some cases, serious consequences, it becomes a matter of the first importance to notice its beginnings, and avoid or remove its causes.

The most obvious cause of costiveness, is debility in the muscular action of the large intestines, in which alone constipation exists. From this cause, the feculent matter which has passed through the small intestines, is suffered to pass on too slowly, and thus to accumulate, producing distension and increased weakness. The absorption of the fluids naturally existing in these matters, but hardens and dries the mass, and renders its expulsion more difficult. These causes seem of themselves sufficient, in many cases, to account for all the symptoms. But close observation warrants the addition of many additional causes. Want of exercise, or employments confining individuals to inconvenient or unalterable positions, are often causes of this complaint. Improper food and im-

proper medicines, must come in for a heavy responsibility, in relation to this subject ; but my views will be better explained when the remedies are treated of.

Costiveness seldom makes its attack suddenly. Gradually a hardness or dryness of the evacuation will be seen. The discharges become less frequent, and flatulence and oppression about the abdomen, become troublesome. Slight pain is felt in the course of the large intestine, from near the right hip upwards, and across near the pit of the stomach, and downwards on the left side. In persons not too corpulent, the volume of the distended intestine is easily felt, when a recumbent posture is taken and the muscles relaxed. Nature makes greater efforts to relieve herself. The contractions of the intestine become violent ; sometimes painful. The *faeces* are discharged, compressed as a piece of tape, or rounded into balls or irregular masses. In a short time, the discharges become still more difficult. The excited intestine throws out mucus which facilitates the discharge. If these symptoms continue, a state of disease follows. Dysentery, with fever and intolerable pain, which is only relieved by active remedies. Enormous collections of feculent matter, discharged with great difficulty, even by the most powerful means. Nervous disorders as indescribable as intolerable ; and to crown all, dyspepsia and frequent attacks of violent colic. Piles and other local disorders are often brought on. Such is the train of diseases which constipation may produce ; not in a single case, or in a short time, but often enough to render its proper treatment highly important. This account, condensed as it is, will, I trust, serve to enable every sufferer to understand the character of his disease.

The treatment of colic, dysentery, dyspepsia, and other disorders depending on, or attended with costiveness, cannot be entered on here. They will be spoken of, each in its place. But the remedies and measures necessary to prevent and remove constipation, are our present subject of consideration.

The means of prevention are obvious from the suggestion of the causes. Exercise in the open air, especially on horseback. Nearly two hundred years ago, Doctor Sydenham loaned a poor sufferer a horse to ride a "very long journey," that he might be freed from attacks of colic, brought on by torpid bowels. No better advice can now be given. But exercise is not restricted to riding on horseback. It is to conform to necessity or circumstances. A change is often beneficial to those who seem to have had sufficient exercise. But this remedy may



be carried too far. Violent and long protracted labor is no remedy for any disease.

A proper diet may be placed amongst the preventive remedies of costiveness. Several vegetables seem to have a slight cathartic effect, and have been highly extolled. Spinach and the leaves of turnips boiled, are perhaps the best. They cannot always be said to be exempt from the production of flatulence. Of bread, the coarsest is the best. Unbolted flour is used for making the celebrated Graham bread, now regarded as the best of all bread for dyspepsia and constipation. Indian corn meal, rather coarse than fine, baked hard and thin, is, in some cases, a better article, and to those accustomed to it, far more palatable. Small hominy from the same grain, is decidedly favorable to the expulsive action of the bowels. Butter, if good, is allowable to all who can take any animal food; but no oil or lard should be put into bread before baking; nor is leaven or fermentation a benefit, but a decided injury, unless the bread is allowed to remain at least a day before it is eaten. All kinds of meat should be salted and cured, before they are used by persons with weak or torpid bowels. This will be questioned; but I risk my reputation on the event of the trial. Bacon, or pickled pork, not too old, is the best. Mutton, or venison prepared in the same way, is also very good. Beef is more stimulating, and less allowable. All fresh meats, poultry, fish, or small game are bad. Coffee, tea, and sugar, are bad. Milk is very good for some; and, for no obvious reason, very bad for others. Molasses is a bad and indigestible article of food, but carries with it, in its uncrystalizable sugar, a mild cathartic, and is sometimes allowable. Fruits and melons are of a doubtful character. They should be sparingly used; and it will be found that the slight cathartic effect sometimes brought on by fruit, is seldom beneficial.

It will be observed, that the articles of diet recommended are not always the most nutritious, or easily digested. The feverish and irritable state of patients laboring under this disorder, forbid large quantities of nutritious food. The small quantity of feculent matter left after the digestion of well cooked meat, and the finer preparations of bread or sugar, leaves the larger intestines so little to act on, that they become torpid from inaction. This, in the higher classes, is probably the most common cause of constipation. A regimen for the relief of torpid bowels, should contain some coarse and indigestible matter. The bread above recommended is far better than vegetables or fruits containing cathartic powers. *Let the food*

*be coarse.* The common laborer whose bread is of coarse corn meal—whose meat is bacon—who uses neither tea nor coffee, sugar nor rice; nor yet game, poultry, or fish; and whose vegetables are coleworts or peas and sweet potatoes, seldom requires bitters of *hiera picra*, or pills of aloes to remove costiveness. An observing friend, with a fair opportunity of judging, has seen the ample, not to say enormous discharges of this class, when compared with the pampered and well fed. In all matters relative to diet, the patient must be allowed a choice, when certain articles are found by experience, to suit him better than others. That which is best cannot with certainty be known till it is tried.

The medicines to be given in cases of costiveness are few. Cathartics, for the removal of large collections of feculent matter; aperients, or gentler laxatives; and tonics, to restore the strength of the muscular fibres of the intestine.

Where there is reason to believe that the bowels are in an overloaded state, a dose of calomel, ten or fifteen grains should be given. If it operates more than once in twelve hours, give no cathartic after it. If it fails to operate, give castor oil, a table spoonful every two hours, till it operates. If the oil is objected to, rhubarb and magnesia, Epsom salts, or a Seidlitz powder, may be substituted. But the exchange is bad, and the oil should, if possible, be taken. In some cases, considerable pain will follow the operation of the cathartic; and there is no objection to seeking relief in the use of paregoric or laudanum. A tea spoonful of paregoric, or twenty drops of laudanum, will be sufficient in ordinary cases.

Having procured a proper operation from the bowels, remedies to prevent a recurrence of constipation must be given. And the great difficulty is, to give such as will prevent the accumulation of feces in the bowels, and not produce a prostration of their natural powers, if too long persisted in. In the first place, I object most positively to all hydragogue cathartics, such as jalap, salts, or magnesia. Seidlitz powders have produced more cases of costiveness, than any other remedy I have known; and it is a matter of real joy, to find them going out of fashion. The Saratoga water, so extensively used, is but little better. Aloes is the principal article in the best pill I am acquainted with. Take of aloes, sixty grains; gamboge, ten grains; mix, and divide into sixteen pills. This prescription may be used for weeks, where it does not cause evident pain and irritation, at the time of evacuations. One or two pills a day may be given, and should never be allowed to produce

more than one evacuation a day. It must be laid aside as soon as the bowels are found to act of themselves; and the excellence of the remedy consists in its producing action of the bowels, longer than any thing else I know, and never of itself inducing costiveness. But there are many persons who cannot use this stimulating pill; because of the irritation, and sometimes fever it produces. To such I recommend the following: Take of ipecac, thirty grains; rhubarb, sixty grains; mix, and divide into twenty-four pills. Of these pills, take one by one, three or four a day, as the case may require. If they produce nausea or vomiting, the quantity of ipecac may be lessened; but by taking the pills some time after eating or at bed time, they will probably not cause vomiting. These pills are of great mildness, and may be continued for a great length of time.

There are cases in which, from irritation of the intestines, more or less fever is almost constantly present. In these cases, give the following: take of calomel, thirty grains; tartar emetic, six grains; mix, and divide into twelve pills. Give these one by one, so as to produce two or three evacuations daily, for two or three days, or till the fever seems to have given way. Then give the pills of ipecac and rhubarb as above directed. Calomel, or blue pill, has not been a leading part of the remedies I have recommended for costiveness. It is only when the disease becomes complicated with other disorders requiring the mercurial treatment, that I advise those remedies. Costiveness of itself does not require it.

Several remedies which seem to have only a mechanical operation, have been recommended for costiveness. Injections of cold water, or vinegar and water, used every morning, have, in some cases, superseded all other remedies. I have known several cures in bad cases, effected by this simple means. Mustard seed, swallowed whole, was at one time extensively used; and I have no doubt is a good remedy in many cases. I attribute no medical effect to it, but suppose it to act as the bran in the Graham bread, and perhaps the coarser portions of the hard baked corn bread I am so much in favor of.

Tonic medicines become useful when the costiveness is lessened. They should not be urged on bowels too tender, or on a system too feverish. It is a common practice to combine them with cathartics. This I never do. I think their good effects are often hindered by such combinations. Extract of gentian in pills, is perhaps the best tonic in these cases. Rub with the mass a little powdered ginger, and make into pills

of the common size, about four grains in weight. Of these, from three to six a day may be taken. Iron is also a favorite prescription. The common carbonate, or what is better, the precipitated carbonate, may be in the same manner formed into pills as follows: take of precipitated carbonate of iron, sixty grains; powdered ginger, thirty grains; powdered gum Arabic, twenty grains; mix, and make into twenty pills. These pills to be taken in the same manner as those above recommended. These are the best tonics with which I am acquainted; but the patient should not expect too much from them. They cannot be safely used in cases with too much fever; and they can never authorise the neglect of the more effectual tonics, well directed exercise and regimen.

---

### PILES—HÆMORRHOIS.

This is a disease of the bloodvessels of the rectum; attended with great pain at the anus, tumours, distension of the veins, and commonly, but not always, frequent discharges of blood.

But a more minute account of its great variety of symptoms is necessary. The patient, commonly in the prime of life, is affected with drowsiness, cold extremities, and a copious flow of limpid urine. A heavy bearing pain at the anus, which, on taking exercise, is greatly aggravated, follows. He feels compelled to evacuate the contents of his bowels; but, on making the effort, finds it unavailing, or at most productive of no relief to his sufferings. A horizontal posture is instinctively taken, and a degree of relief obtained. Days are passed in this condition, which seems to lead to a certain crisis, when all the symptoms disappear. In this mild form, this disease often exists for a great length of time, always appearing to clear off and relieve the system from a state of lethargy and manifest disorder of the digestive organs; and it would be unsafe to deny, that to some individuals it is a salutary and beneficial operation.

Other, and more formidable symptoms attend its farther progress. It recurs frequently; and sometimes periodically. The pain becomes greater, and a degree of fever, with great pain of the back, extending down the thighs, is felt. On seeking relief by a discharge from the bowels, blood is seen to accompany the discharge. This, although sometimes absent, is considered the characteristic feature of the disease. Piles



are, with few exceptions, a flow of blood from tumours or distended veins at the verge of the anus. Sometimes those tumours are external, and easily seen—at others, they are within, and not so easily discovered. These symptoms admit of indefinite aggravation. The discharge of blood becomes, in some cases, enormous. The health of the subject gives way. Debility, pallid complexion, impatience and irritability of temper, despondency, palpitation of the heart, with other and more fatal disorders, too frequently terminate the case.

The local disorders attending piles, have been found extremely various. In aggravated or long standing cases, I believe tumours, external or internal, are always present. They are of every variety in form, color, and consistence. Those which are external, are, at first, commonly blue, and appear to be a distended vein. Not unfrequently they are formed within; but becoming large, and forced out with discharges from the bowels, they are not returned, and remain external. Time, exposure, and pressure, produce in them great alterations. Some become solid; others are vascular in the highest degree. Some are elongated with small necks; others globular, and others with broad and extended bases. Their size and number are, in some cases, remarkable. I have seen a globular tumour growing more than an inch within the anus, of more than one inch in diameter, and yet having a very small neck. In other cases, a tumour of equal size will have a base as broad as itself. It is not easy to say how far up the intestine, the disorder may extend. Dissections have shown the lining membrane, for a great way up, as well as the veins, in a state of disease.

#### REMEDIES.

Piles are commonly a disease of the constitution. They appear under almost any circumstances. I have found them worse in persons in the prime of life—becoming manifestly better as age came on. Many seem to enjoy the highest health, when subject to frequent attacks; and some, even when those attacks are attended with considerable loss of blood.

These facts suggest a doubt of the necessity of interfering in every case of piles. The doubt is stronger where the discharge has been of long standing, or there is reason to suppose it serves as a substitute for other necessary evacuations. Giving to these reasons, and the high authority which has sustained them, all respect and deference, I am bound to say, they

are not sufficient to justify withholding remedies from these great sufferers. Under the excess of these discharges, and the harassing pain and disorganization of the affected parts, the health gives way, and life is not unfrequently the sacrifice. The danger on this side, is, in my opinion, far greater than on that of the cases relieved by remedies. Art, in extreme cases, furnishes substitutes for suppressed discharges, such as blisters, issues, or cathartic medicines and bloodletting. Relying on these, in case of necessity, I should, in every case of piles with dangerous symptoms, use all possible means to arrest them. This is the course which offers the best and most satisfactory result; and the sufferer has a right to a fair trial of it, if his danger is not thereby manifestly increased.

Having determined that it is our duty to arrest and cure piles, as well as other disorders, it becomes important to remove, or obviate, such of their causes as it may be in our power to control. The first and most obvious cause of this disease, is costiveness. This should, by all means, be remedied. I shall not at this time, dwell on the means of effecting this; but refer the reader to remarks made in another place, on that subject. The occasion is suitable, however, for introducing the observation, that costiveness is oftener charged with causing piles, than justice warrants. A medium state of the bowels, is unquestionably best. But I have oftener seen this disease brought on by too free action of the bowels, than by costiveness. Every one must have observed the injury produced in piles, by too frequent use of cathartic medicines, especially of the drastic and stimulating kinds. My advice is pointed and particular on this head. Preserve, if possible, a middle state of activity in the bowels; but rather err on the side of too little, than too much action.

An overloaded state of the bloodvessels—*plethora*, has been much insisted on as a cause of hemorrhoids. Bloodletting is the most certain remedy for this. But I should not resort to it, except I had fear of sudden danger from the want of the ordinary discharge from the disease. Let the patient abstain from too much food, and take more than usual exercise. This is safe and equally efficient.

Our remedies for the removal of the causes of piles, would be wholly incomplete without due regard to the state of the liver. The existence of diseased liver, in persons affected with piles, is beautifully explained by the fact, that the blood which is returned to the heart by the veins of the rectum, passes, by a circuitous route, through the liver. The great length

and small diameter of these veins, together with the flaccid and elastic organ through which they run, would lead us to look here, if any where, for vessels overloaded and distended with blood. In the disease in question, they present facts of this kind, in every variety. A simple enlargement of their diameters to many times their natural size, is common. A natural, and I believe a common cause of piles, is a state of the liver hindering the return of the blood through it to the heart. So far as this depends on over fulness of the bloodvessels, caused by "*too much food and too little work*," it requires no other than the remedies of abstinence and exercise, so often insisted on. These should never be neglected ; but the functions of the liver are too important here to be overlooked. Its secretions are easily increased by the use of calomel, or other preparations of mercury ; and the relief of the congestion is so immediate, that it is too often used to the neglect of every other remedy. Four or five grains of calomel, given at night, is commonly enough, and should not be followed the next day by any other cathartic. Such a dose will not produce salivation, except in very rare cases, and then to a limited extent. It is a great error to think that the thorough discharge of every particle of mercury from the system, is necessary or proper. Its office is not performed in a moment ; and I have no hesitation in saying, that the fears of the ablest men of the profession dictate remedies for its speedy discharge, to the great injury of their patients. I give five grains of calomel, or its equivalent of other preparations, once or twice a week, for an indefinite time, without fear. This has, in many hands, accomplished a great deal. I give it with no auxiliary cathartic. I know this prescription will be thought feeble, by some, and rash, by others. To those who deem it inadequate, I reply that the sudden removal of plethora, is not always the best or safest way to prevent its return. A salivation has been claimed as the great remedy by some ; but I think it uncalled for, except the disease of the liver requires it. But to those who fear producing a *mercurial disease*, I must say, that thirty years' observation has convinced me, that this can happen only from long continued salivation, and from that *rarely*. Without mercury, I think the physician almost powerless in piles. With it, his powers are so great, that his patients run into the opposite danger, of forgetting the great preventive remedies of exercise, abstinence, and others essential to the restoration of health. So much for removing the cause, and preventing the paroxysms of piles. But there are cases in which the returns of parox-

ysms, however mitigated, will still take place. The highest apparent health will not always prevent this; and it is to be left to a sound discretion, how far remedies are, in these cases, to be pursued. The patient should be satisfied with a decided mitigation of his sufferings. The treatment should cease, except so far as avoiding the causes of the complaint, and an occasional remedy, if the paroxysm is severe. I have not dwelt longer on this part of the subject, than its importance demands. Every subject of this malady ought, in some degree, to understand its history; and, especially, to be aware of its dangerous tendency. The remedies to be used in the paroxysm, and for the relief of the local symptoms, will close what I design to say on it.

The paroxysm of piles, is the time of pain, inflammation, swelling, and hemorrhage. The discharge of blood is seldom a just cause of alarm, except from its frequent returns, and great and exhausting debility. If from these causes, and the excess of the discharge, fear of too great exhaustion is entertained, a horizontal position, with the application of cold water, may be resorted to. If the bleeding vessels are external, pressure is easily so applied, as to suppress the discharge. The best internal remedy is sugar of lead, given in doses of five grains, in water, every hour, till three or four doses are taken, if necessary. Inflammation and tumefaction of the part, are best treated by the application of cold water, or soft linen, or by poultices, leeches, or other similar remedies. For the internal burning pain, and the weight, and bursting pain of the tumours, I have found balsam copaiba, in doses of from fifty to one hundred drops, repeated in one or two hours, if necessary, the best remedy. The relief sometimes afforded by it is speedy and striking. Spirit of turpentine, in about the same dose, has also been recommended. These remedies may be repeated as often as they may seem necessary.

The treatment of the tumours requires judgement, skill, and, in some cases, intrepidity. Some of them are exceedingly vascular, and produce, when removed, considerable hemorrhage. If they are small, they are removed without danger. If larger the hemorrhage will be greater; and from those situated internally, it is not easily controlled. Where danger from loss of blood is apprehended, a ligature should, if practicable, be resorted to. It is impossible to point out the cases in which it may be unsafe to resort to an operation. The relief afforded by the removal of these tumours, especially such as discharge great quantities of blood, is very great. They should



be operated on when freest from irritation ; and with this precaution, I have never seen much inflammation ensue. In ordinary cases, the operation is exceedingly easy, and is best performed with a pair of scissors.

---

## INFLAMMATION OF THE BOWELS—ENTERITIS.

I propose to treat in this chapter, of inflammation of the small intestines, not as it appears in typhus fever, diarrhœa, or as a sequel of other diseases, but as an original disease. The symptoms which characterize this particular affection, are in many instances obscure ; and he is fortunate who, in attending to numerous cases, shall escape error. The most common mistake is, to consider this disease as an ordinary attack of colic ; and, the greatest danger, the administration of drastic cathartics for its relief. The mistake is too apt to be the result of haste and inattention ; but its consequences are sufficiently grave, to admonish us to take great care in making our investigations of the diseases of the abdomen.

### CAUSES.

Inflammation of the small intestines is, so far as I know, never epidemic ; but depending on causes applicable to the individual who is attacked with it. The most common of these, is exposure to cold, especially standing on the cold ground, or in cold water. But the presence of foreign bodies, or of poisonous, or acid substances, in this portion of the intestines, are also causes ; and, within my observation, the most frequent. It is unnecessary to mention the substances which have been known to produce this disease. The preparations of arsenic, copper, and mercury, are the most frequent ; but when these and similar substances are the cause, the inflammation extends to the stomach also. The smallness of the tube in this portion of the bowels makes it a seat for the lodgement of foreign bodies, which may have been improperly or accidentally swallowed. I have known a quarter of a dollar, which had been swallowed by a child, produce for more than a year, more or less inflammation in the small intestines ; and it is stated, that it is in this portion of the bowels, concretions of chalk and other substances have been found.

Intussusception, or invagination of the bowels, happens only

in this portion of the intestinal canal. This accident, which consists in the drawing of one portion of the intestine within another, as we frequently see a portion of the finger of a glove, produces violent inflammation. The portion thus invaginated is sometimes very small; but in others, the process goes on till nine inches or more of the intestine, is thus drawn within itself; and, strange to tell, the portion thus drawn in and strangulated, sometimes sloughs off and comes away, and yet the patient recovers.

#### DESCRIPTION.

Inflammation of the bowels, like other inflammatory diseases, sometimes comes on with a chill; but, in cases in which its approach is gradual, the chilliness is either very slight or unnoticed. Pain in the bowels soon follows, and great tenderness from the navel downwards, especially towards the right hip. The bowels are frequently costive; but in other cases, very copious discharges take place. When the bowels are invaginated, or violent vomiting takes place, and frequently the feces or matter which should pass downwards, is thrown up. Fever, commonly attends the disease from the first. The pulse, as it commonly is, in diseases of the bowels, is quick, small, and hard, but soon gives way, becoming soft and rapid. The disease, from the first, is painful and alarming, and is in fact very dangerous.

It is of some consequence to discriminate this disease from colic, which resembles it in so many respects. When it commences "with distinct rigor, and is attended by thirst, a hot skin, and a hard frequent pulse?" Dr. Watson thinks, "there is no room for doubt." I should rely myself on the tenderness from pressure, and the violence of the fever attending this disease. If a violent distension of the bowels, with great increase of tenderness, takes place, there can be no impropriety in treating it as enteritis.

#### TREATMENT.

The general remedies for inflammation, require some modification in their application to inflammation of the bowels. We shall explain this as we proceed.

*Bloodletting.*—This powerful remedy for inflammation, will of course find a place at the head of our list of remedies. It should be adopted as early as the nature of the disease can be ascertained. If the disease has not existed more than a day or two, the smallness and rapidity of the pulse should not too

soon deter us from the use of the lancet. Experience seems, however, to sanction the belief, that in this disease, though an acute inflammation, we cannot persist in bloodletting to the extent it might be beneficially carried in some other diseases. If the pulse is not made slower, and the pain greatly relieved by bloodletting, I should not repeat the remedy.

*Leeching and cupping.*—These remedies are a means of drawing blood on a smaller scale, from vessels nearer the affected part. There can be no doubt of their great utility in this disease, and of their being proper in cases where the exhaustion is too great to allow of general bleeding. I can see no preference of one of these remedies over the other, except what arises from the degree of pain attending the operation. The application should be as near the seat of pain as convenient, and the quantity of blood thus drawn regulated by the strength of the patient.

*External application of cold.*—For what reason warm fomentations to the abdomen, have been generally recommended in enteritis, I am unable to divine. That they should do good in common colic, when there is great pain and cramp, or spasm of the bowels, is reasonable enough; but when there is present an acute inflammation of the intestines, I must think the application of cold by far the better remedy. This has of late years been my practice. I have, without hesitation, applied cold by wet towels, or ice, if to be procured, in all cases of inflammation of the bowels, whether complicated with inflammation of the peritonæum or not. I have thought these applications as beneficial here, as in other inflammations; and I do not hesitate to recommend them to all who have occasion to prescribe in this disease. Perhaps at an earlier time than in other inflammations, we may be admonished by cold extremities, to abandon the use of cold applications; but for the same reasons which demand the use of leeches, under these circumstances, the cold applications should be continued longer, than the state of the system generally would seem to warrant. To me, it seems inconsistent to apply warm fomentations after leeches. But aside from all reasons of this kind, I confidently recommend the cold applications as the result of experience. I have, again and again, tried them, and found, under their use, the extremities grow warm, the heat of the body become less, the pulse slower, and all the symptoms of an equalised excitement and great improvement, follow.

*Blisters.*—It is in the latter stage of this disease that blisters should be applied. It is only when the skin becomes moist,

that a blister can fill with a fluid serum, and continue to discharge freely for several days. It is only in such cases that they are beneficial ; but if they are applied too early, and fill with a gelatinous fluid, which will not flow out when the skin is opened with a pair of scissors, they immediately dry up, and do very little good.

*Internal remedies.*—Great judgement, and much knowledge of the power of medicines, are necessary in directing their internal exhibition, in cases of inflammation of the bowels. In most cases, the stomach ejects almost every thing taken into it ; in others, there is invagination, or other obstruction to the passage of any thing through the bowels ; and, in all, a tenderness of the intestines, calling for the least disturbance and most rest. These circumstances seem to forbid the use of emetic or cathartic medicines, and authorities concur in dispensing with them, in a very great degree.

*Calomel and Opium.*—In spite of the valid reasons against the liberal use of cathartic medicines in this disease, this combination has met with very general sanction. It is to be given at first in a liberal dose, say three grains of opium, and twenty of calomel, made into pills and taken at once. If they are thrown up, (and care should be taken to ascertain the fact,) let them be immediately repeated. This is, I have no doubt, the most valuable internal remedy, yet discovered for this disease. In extreme cases, it may be repeated in twelve hours ; but this will be seldom necessary. The calomel and opium thus combined, perform two great purposes, the relief of pain, and the gradual movement of the bowels. But there is great reason for thinking that the calomel, besides its purgative qualities, operates, in this case, with a mildness and efficiency not found in any other remedy.

Should the case prove obstinate, as all those depending on obstruction of the bowels are likely to do, a judicious use of calomel and opium is still the main reliance. A deep salivation is to be avoided by not repeating the calomel more than once, before satisfactory discharges from the bowels are brought on. This is to be effected by small, repeated doses of mild purgatives, such as castor oil ; and if it fails, senna and salts. The opium is to be given, with care not to increase the irritation and fever attending the disease. This is best accomplished by giving it in large doses, at long intervals. Three or four grains of opium, or sixty, or eighty drops of laudanum, once in twenty-four hours, if the pain is intolerable, or the strength



of the patient seems to be giving way, will be a good rule for its administration.

These remedies are proper in the first or inflammatory stage; but in protracted cases, this more than other inflammations, seems to prostrate the patient, and require the use of stimulants and nutritious diet, towards its close. This is probably more the case where the bowels have been obstructed, and especially when sloughing of the intestine happens. This last case can be considered only as a case of mortification, and is to be treated accordingly. The stimulants to be used in these cases, are spirit, wine, laudanum, quinine &c. The quantities used should correspond with the strength of the patient, or rather with his weakness, the larger quantity being requisite where the weakness is greatest.

---

## DISEASES OF THE ABDOMEN.

The organs contained within the abdomen are not vital in the same degree, with the brain, the lungs, or the heart; they are, however, subject to many and fatal diseases. It is, therefore, important, that in the study of the diseases that affect these organs, our examinations should be conducted on proper principles.

A perfect knowledge of the state and situation of organs concealed from our sight, as those of the abdomen are, cannot be obtained; yet a great deal may be learned by a judicious investigation of the subject. When, from the symptoms of a disease, it is suspected that it has its seat in the abdomen, it should be examined with due care. A general knowledge of the position of the organs it contains, should be had; and it should be also known, that these organs are so loosely attached to their position, that they may be removed to some distance from it. The seat of disease is sometimes manifested by pain; in other instances, swelling, or enlargement becomes manifest; guided by these, a near approach to the knowledge of the seat of disease in the abdominal cavity, may be obtained.

To make these investigations satisfactory, the patient should be placed in a horizontal position, on his back, with his head well raised, and knees drawn up. The walls of the abdomen are thus relaxed, and the organs situated within them easily examined. The principal derangements which are made manifest by this examination, affect the liver, the spleen, the stom-

ach, and parts of the intestinal canal. An enlarged liver is easily felt, passing out from under the ribs on the right side; its volume is often so great, that it descends far down the side, even with, or below the hip. From nearly the same position on the left side, the spleen often projects, extending across the abdomen, manifesting considerable hardness, and a bold, well defined margin. The womb, after child birth, and the bladder, when distended, occupy the centre and lowest part of the abdomen, and are, in this state, frequently manifest to the touch. The intestinal canal is less frequently subject to disorders, which manifest themselves by enlargements that may be felt. To this, however, there are exceptions. The colon, or large intestine, is sometimes vastly distended with matters which should have been ejected. I have felt in a living child, three or four years old, the arch of the colon, passing across the abdomen like an enormous sausage, which was proved after death, to have been caused by more than a pound of worms, tangled together in that intestine. This intestine is the seat of many painful disorders, especially colic, which takes its name from it. It arises near the right hip, and passes up towards the pit of the stomach, where it passes across, and down by the other side. The small intestines occupy the central position in the abdomen, from the stomach downwards; and the stomach itself, which is a comparatively small organ when not distended, occupies a central position at the joining of the ribs from each side. Where the patient is not very corpulent, these organs, when in a state of disease, may be generally investigated in a satisfactory way; and when, from a continuance of disease, great emaciation has taken place, these examinations become much more perfect. Fluids contained within the abdomen, and exterior to the intestinal canal, are easily detected. By placing the hand on one side, and giving on the other a light tap with the finger of the other hand, a sudden impulse of the fluid will be felt, which can not be easily mistaken. If the fluid contained is small in quantity, it will be found in the most dependent position. If the patient turns from one side to the other, it will be heard running down gurgling amongst the bowels, till it has reached the lowest point. This will be manifest if the ear is placed in contact, or nearly in contact with the walls of the abdomen. In doubtful cases, percussion may be made on this portion of fluid, which has thus reached the lowest point, by placing one hand under it, and striking with the other, at an inconsiderable distance from it. I have found this as satisfactory, and the manifesta-

tion of the presence of fluid as clear, as when the distension of the abdomen was very great.

By these simple means, the organs contained within the cavity of the abdomen, are made to manifest their diseased conditions. Pain is by no means so sure a test of the presence of disease, as the enlargements of which we have spoken; for, in many instances, there is either no pain, or the pain felt is at a distant point from the disease. This, however, is not so frequently the case, as to warrant us in overlooking the exact position of pain or tenderness on pressure; they are generally manifestations of the presence of disease.

---

### INFLAMMATION OF THE PERITONÆUM—PERITONITIS.

The lining membrane of the abdominal cavity, is called serous, from having, in health, a sufficient portion of serum on its surface to prevent adhesion, and to facilitate the motions of the organs contained within it. Like other membranes of this kind, the peritonæum is subject to inflammation; and when inflamed in any part, that inflammation is disposed to spread throughout its whole extent. The disease, in this way, becomes formidable—tending to speedy death; or, in the event that such a result is averted, adhesion, dropsy, or other disorders too often follow.

The causes of this disease are similar to those producing inflammatory diseases in general; great exposure to wet and cold, being the most prominent. But it is not to be forgotten, that this disease sometimes seems to arise from a general or epidemic cause, independent of the sensible qualities of the air. Thus it will sometimes happen, that many cases will occur from slight injuries, and some without any visible cause, about the same period of time; when, at other times, a physician in full practice may pass several years without witnessing the disease in a single instance. Women in child-bed are particularly subject to its attacks, in the most awful form; and this I have noticed to occur in the manner of which I have been speaking. In Europe, in the lying-in hospitals, a strong suspicion has arisen, that the disease is contagious, and that the midwife or the nurse that has attended to one, suffering under this disease, may propagate it, by attending on others, under like circumstances. I have never seen any thing which would

warrant me in countenancing such a suspicion. Yet the fact, if it be true, is too important to be overlooked by those to whom the important charge of nursing lying-in females, is entrusted.

#### SYMPTOMS.

Acute inflammation of the peritonæum, is known by extreme pain and tenderness of the abdomen, not in particular organs, but increased by coughing, sitting up, or other movements tending to give pressure to the parts. There is considerable fever, but the pulse is subject to great variety, sometimes full and strong, at others sharp, small, wiry, rapid. The patient lies on the back, with knees drawn up, breathing quick and short, and apparently using the ribs only in this process; thus instinctively protecting the parts below, from the pressure of the descending diaphragm. The abdomen is swollen from the first, but becomes tense from wind, and is tender to an extreme degree; so much so, that even the weight of ordinary bed clothing is complained of. This tenderness is so great, that the physician in his examination ought to use extreme care in touching or handling the abdomen. The pain, although never absent, becomes by turns extreme; and the slightest motion, even the passage of air from one portion of the intestines to another, is attended with aggravation of the symptoms. The countenance will be readily noticed as indicating the deepest misery. As the case progresses to a fatal termination, it becomes ghastly and shrunken; cold sweats, and breathing more and more impeded, closing the scene. But even to the end, there is a calmness in the mind, and an absence of delirium, which is very striking.

Other symptoms might be mentioned, but they are not so frequently present—such as vomiting, strangury, or suppression of urine. Perforation of the stomach or intestines by ulceration or accident, so that their contents flow out into the abdominal cavity, produces perhaps the most sudden and fatal attacks of this disorder. A rupture of the bladder or uterus will produce the same effect.

So striking and peculiar are the features of this disease, that it will be readily discriminated from others; but we are charged by Doctor Watson against mistaking certain attacks of hysteria, for inflammation of the peritonæum. I remember a single instance only, in which I, for a very short time, was under this misapprehension. The mistake, if made, will be of no fatal consequence; but, with some attention to the collateral



circumstances of the case—the age and previous health of the patient—degree of exposure—mental excitement, and especially inordinate fear, we shall not be in much danger of making such a blunder.

#### TREATMENT.

Inflammation of the peritonæum is a dangerous, and often a fatal disease ; it is to be treated, as the highest degree of inflammation, with such variations as the cause and character of the case may demand. Our great reliance is on bloodletting, and mercury—calomel. Bloodletting should be practiced early ; for so rapid is the progress of this disorder, that the time at which it may be beneficial, has frequently passed in a single day. The pulse, our great guide in the use of this remedy, is less to be relied on here than in other cases. If the patient is in an ordinarily full habit, and not prostrated by previous disease, the smallness of the pulse, unless it be also soft, should not deter us from bleeding. If the remedy is doubtful, it is prudent to draw, at first, only a small portion of blood. If it is beneficial, the pulse will speedily become slower and fuller ; in which case, the arm may be again corded, and an additional portion of blood drawn. This precaution should not be regarded slightly, for it is to be remembered, that in this, as well as in other inflammatory diseases, there occur cases of such malignity, that, from the first, the abstraction of blood, and other depleting remedies are wholly inadmissible. Local bleeding is highly recommended in these cases. Writers say, cover the abdomen with leeches. My own opinion is, that this mode of abstracting blood is not entitled to a great deal of preference, over bloodletting at the arm. Should the case continue, and inflammatory symptoms still remain, the bleeding may be repeated, after twelve or twenty-four hours ; but I am no advocate for the heroic plan of letting the blood flow till the patient sinks under it, to fainting. The great object of the practitioner, according to our most approved authorities, is to bring on salivation. For this purpose, calomel, in doses of four or five grains, should be given every six hours ; and we are advised to hinder their passing off by the bowels, by the occasional administration of morphine or laudanum. This, I have no doubt, is good practice, in cases which are running out to a chronic state ; but, in the first days of an acute disease of this kind, I think this practice extremely faulty. I do not object to salivation. That is an event which may, in some cases, be desirable ; but we are not to make it so great an object, as

to hinder us from combating with our most potent remedies, the intense inflammation of the first two or three days.

Cathartics are a much disputed remedy in this disease. The great pain which attends the slightest movement, even the passage of wind through the intestines, is thought to be evidence of the danger of using active cathartics, which give to the intestines so great an increase of motion. My own opinion is, that this is an error. There is no case in which I would express an opinion with more diffidence, than in this. My experience in it has not been great, and that which I have had, has been principally in lying-in women; but in these cases, and indeed in all cases of the acute kind, where there was no disorganization of the parts to apprehend, I should think my patient deeply injured by withholding from her the use of cathartics. In cases occurring in child-bed women, I have tested their value to my entire satisfaction. The cathartic I use almost exclusively, is composed of calomel and gamboge. Take twenty grains of calomel, and eight grains of gamboge, form it into eight pills, and administer four of them. Of the remaining four, give two every four hours, till they operate as a cathartic. Should all fail to move the bowels, castor oil should be taken in broken doses, till a full cathartic effect is produced.—Remember, *a full cathartic effect*—several copious discharges are necessary. If, after copious discharges have taken place, there should be great pain, I advise the use of half a grain of morphine or forty drops of laudanum. If the prostration of the patient is great, these doses may be doubled; but I must say, that in the child-bed cases, which I have met with, this use of the laudanum has been seldom necessary; the copious discharges brought on by the cathartic remedies, have, in almost every case, been attended with such manifest and great relief from pain, that the opium has not appeared to be necessary. Under this treatment, salivation seldom occurs, and I think it as seldom necessary.

External applications to the region of the abdomen, are a matter of equal dispute with cathartics. While you are recommended by one, to make use of warm poultices, renewed from time to time, another will advise you to apply bladders filled with pounded ice. My own practice has been, to make use of the warm applications. They are certainly in some cases, attended with great relief from pain, and have not, as far as I know, been productive of any injury. Where the case has continued for three days or more, I have been well pleased

with the effect of extensive blistering, and do not now hesitate to recommend it.

In cases arising from the presence of foreign matter which has escaped from the bowels, the bladder, or other source; the physician has nothing to rely on, and the patient nothing to hope. They are almost always fatal. Opium, repeated from time to time, according to the urgency of the symptoms, forms our best reliance, and it is pleasing to know, that this remedy is equally entitled to the first place, in reference to both the comfort and safety of the patient. For the quiet and repose which it gives to the intestines, affords the best opportunity to nature for a repair of the injury which has been done. The few cures which are said to have been made, have been attributed to this remedy alone.

Few diseases require a more discriminating judgment in the practitioner than this. I have recommended, in conformity with the experience I have had, strong and powerful depleting remedies. I have, at the same time, recommended the warm applications and blistering, which I have seen condemned by some. I am not prepared to dispute the benefits which others have derived from the use of cold, instead of warm applications; or the ill effects they may have seen from the use of cathartics. I can easily credit the great malignity which the disease has sometimes put on, forbidding entirely the course I have recommended, and compelling a reliance on the opposite course; with the use of opium, quinine, and brandy. But I repeat again, I have not met with such cases; and that with the treatment I have recommended, I have had the greatest reason to be fully satisfied.

#### CHRONIC INFLAMMATION OF THE PERITONÆUM.

Persons who escape from a speedy death, under attacks of inflammation of the peritonæum, are frequently only reserved for the same fate, by a lingering process, from a chronic inflammation of the same membrane. They in fact do but partially recover; and a lower grade of inflammation remains. This low chronic form of disease, does not always arise from the acute form. In many cases it makes its insidious and dangerous progress at first almost unperceived.

The symptoms which attend this disease, are slight pain in the region of the abdomen, nausea, disordered bowels, tenderness to the touch, some enlargement or swelling of the abdomen, and a continued low inflammatory fever. In many instan-

ces, it arises from disorders of particular organs. The omentum especially, is sometimes found in a peculiar state of disease, the character of which is not very well understood. It seldom arises from the disease of the liver and spleen. When it succeeds the acute inflammation, it is frequently found attended with adhesion of the parts of the cavity which had been most affected by the disease.

#### TREATMENT.

Too often this disorder, although not formidable in its appearance, is founded on incurable mischiefs ; and our remedies are at best, but palliative. There is, however, no great difficulty in pointing out the means, which may be used, with most benefit. Bleeding often repeated, in small quantities at a time, is, I have no doubt, the most valuable remedy we possess. Leeches would seem to be our best means of abstracting blood, in these cases ; cupping is wholly inadmissible, on account of the tenderness of the parts. Beyond this, I should advise, from time to time, such mild cathartics as might hinder the accumulation of improper matters in the intestinal canal. If the pulse were strong and corded, I should not hesitate to use the antimonial mixture, repeated several times through the day, in such doses as the stomach might bear without inducing vomiting. These and other remedies, which the particular symptoms of the case may seem to call for, may in some cases lead to a cure ; but it is not often, that we should flatter ourselves with the expectation of so favorable a result.

---

#### DROPSY OF THE ABDOMEN—ASCITES.

This disease frequently arises from chronic inflammation of the peritonæum, and is, in that case, an effusion of serum from an inflamed surface. When the inflammation which has given rise to it, has been produced by cold, or other temporary cause, the disease is frequently curable ; but, like other dropsies, it frequently arises from causes entirely beyond the reach of our means of cure.

We have alluded to cold, or an ordinary inflammation from this cause, as a frequent cause of dropsy of the abdomen. The other causes may be briefly summed up in circumstances producing a single effect—the hindrance of the return of the ve-



nous blood, from the organs contained within this cavity. When the blood which is distributed to the liver, for instance, finds in consequence of the vessels through which it should be returned being obstructed, great hindrance to its passage, a transudation of the watery portion of the blood, through the coats of these vessels, takes place; and this forms the most common source of the fluids, found in the abdomen in this disease. Great variety, however, has been found in this fluid: in some instances, it is deeply colored, as if mixed with blood; in others, gelatinous—so thick as not to flow through the trocar, introduced for the purpose of its discharge. This I witnessed in the Pennsylvania hospital. Doctor Physick performed the operation of tapping; but not a drop of any fluid made its appearance. He gave the opinion that the matter contained was a thick jelly, and that the case might be considered hopeless. This species of dropsy occurs also when there is a general dropsy; and it may arise from the same cause which has produced the dropsy, in other parts of the body.

*Ovarian dropsy*, will of course find its place in the abdomen, but is to be discriminated from the general dropsy of that cavity. The ovaries, it will be recollected are small bodies, placed on each side near the hip; a very small vesicle, forming in one of these, sometimes takes on an enormous growth, filling the whole cavity of the abdomen, with a great sack, of considerable thickness and strength. The disease is commonly first noticed in the form of a small tumour, occurring in the lower part of the abdomen, near one side. By degrees it increases in size, producing a manifest fulness of one side more than the other. In this state it may be examined, and by percussion, a light tap with one hand, the opposite side from which the other is applied, will be distinctly felt to contain fluid. It will be known from abscesses, by the absence of pain and soreness. These cases of dropsy are commonly those which have given rise to the numerous tappings of the same individual, which we read of. The sack seems to admit of indefinite growth and distension; and the amount of fluid discharged in these cases is fully as great, as in other forms of this disease.

Other forms of encysted dropsy of the abdomen, have been mentioned; but they are of rare occurrence, and, in almost every case, arise from incurable disorders.

#### TREATMENT.

It is manifest that in treating of dropsy of the abdomen, great attention should be bestowed on its remote causes.

When these can be removed, our hopes of success are very great. If it be a liver disease, or disease of the spleen, our remedies should be directed to the removal of those diseases, of which I shall treat under their proper heads. Still, the ordinary remedies for dropsy should be used. Active cathartics are especially applicable; of which the best with which I am acquainted, is cream of tartar and jalap. It should be given to operate actively, twice a week, or oftener, if the patient's strength seems to admit of it. Mercury is a standing remedy in this disease. Calomel should be given, four or five grains a day, for many days in succession, after the use of the more active cathartics we have mentioned. If salivation comes on, it will be all the better. Diuretics, or remedies promoting the discharge of urine, are also proper here; and squills are perhaps the best of these. This article may be given separately, or combined with calomel. My preferences are for its combination with calomel. Pills containing one grain of calomel, and two or three of squills, may be given three or four times a day. In addition to these remedies, when the case becomes protracted, I advise the use of the antimonial mixture, given in such doses, and at such intervals, as the patient may conveniently bear. Iodine, especially the hydriodate of potash, has been highly recommended in these cases. I have no experience of its use, but should resort to it with some hopes, where the liver and spleen were particularly implicated.

Where these remedies fail, and the case becomes intolerable from the distension which attends it, where, indeed, a speedy death seems to be impending, I advise the drawing off of the fluid by tapping. This remedy has not a great deal of reputation in the treatment of dropsy; for it is but too common for the fluid to accumulate again, with greater rapidity than before. Still it gives some hope of a permanent cure, and almost always great relief from present suffering. The relief obtained is sometimes very great indeed. When a very young practitioner, I performed this operation on a very poor woman, who was unable to rise from her bed; breathed with the greatest difficulty, and had not, to all appearance, a day to live. Having drawn from her some three gallons of fluid, and placed around her a supporting bandage, I left her; but great was my surprise, when on returning the next morning, I found her out before the door sweeping the yard. I could hardly realise the idea, that she was to live but a few days. The operation of tapping, although very simple, is of too grave a character, to be entrusted to common hands. A surgeon of some skill should

by all means be employed ; and even to such a one, I suggest the great importance of properly supporting the abdomen with proper bandages, during, and after, the discharge of the contained fluid.

---

## HEMORRHAGE FROM THE STOMACH—VOMITING OF BLOOD.

This is always an alarming—frequently, a dangerous disease. The blood is not seen till a considerable quantity has accumulated in the stomach, when it operates as an emetic, and is thrown up. It is commonly very much darkened in its color, and thrown up in clots or lumps. Sometimes it originates from certain diseases of the stomach, which open considerable vessels by ulceration ; but more commonly it seems to arise from blood which oozes from the minute vessels, of more or less of the internal surface of the stomach. The exact source of blood in such cases, it is not in our power to divine. It may be thrown into the stomach, from some point of the alimentary canal, either above or below. The disease, except when it arises from incurable maladies, is not so fraught with danger as it might appear. The distension of vessels which give rise to it, is relieved by the discharge, which, from that cause alone, will commonly cease. In many instances, it seems to be a substitute for other discharges, whether those discharges are from diseased organs, or from natural evacuations. The least dangerous of its forms, is that which occurs from suppressed menstruation. The stomach appearing, in such cases, to perform the office of the uterus ; from month to month, for an indefinite time. Such cases have been known to continue for many years, without any apparent injury to health.

### CAUSES.

We have already suggested, that deranged menstruation, cancerous ulcers, and certain suppressed discharges, may give rise to vomiting blood. Other causes, however, not unfrequently give rise to this disease. Injuries of the stomach, from falls, blows, or similar accidents, as well as the introduction of improper matters, poisons, for example, into the stomach, may also give rise to this discharge. But with the exception of suppressed catamenia, which is by far the most common cause of vomiting blood, the disorders of the liver and spleen, proba-

oly produce it most frequently. We are taught by anatomy, that the blood thrown into this organ by its arteries, passes back on its way to the heart through the liver. The obstruction it here meets with, in passing through the diseased organ, will, in many instances, cause a bursting forth of the blood from the minute vessels of the stomach, which are thus unable to propel it forward. An enlarged spleen or pancreas may produce a similar obstruction. A mechanical impediment, by pressure on these veins, may produce the same effect. I have no doubt the diseases attendant on these enlargements of the viscera, produce a thinness of the blood, which favors the discharge in question. In several diseases, especially scurvy, this discharge of blood from the stomach is not uncommon, and it has been long noticed as a symptom of fever. I have often witnessed it in the autumnal fevers of this region, and have seen it in a few instances in those which were deeply typhus.

A very slight disorder of this kind is frequently met with, from the over action of an emetic. Small quantities of blood discharged by vomiting, will sometimes be seen ; but I have never known such a hemorrhage, to produce any ill consequence. In dyspepsia also, when the stomach is overcharged with acid, especially in pregnant women, more or less blood is frequently discharged by vomiting.

#### SYMPTOMS.

It would appear, that nothing could be plainer than the fact, that a patient threw up blood by vomiting ; yet it is not always easy to know certainly that the blood thus shown, has come from the stomach ; and there is still greater difficulty in showing that the blood which is thrown up, has originated from that organ. Many causes tend to produce this obscurity. Blood thrown into the throat from any disorder, is frequently swallowed without the consciousness of the patient ; it is sometimes coughed up from the lungs, and then swallowed ; and it may flow along the intestinal canal from distant points to the stomach, preparatory to its discharge by vomiting. It may be added, that cases have occurred in which fraudulent attempts to prove the presence of this disease, by crafty, wicked, or insane persons, have been met with. Blood obtained from other sources, has even been secretly swallowed, that it might be thrown up in the presence of witnesses.

The symptoms, which ordinarily attend the vomiting of blood, are a sense of weight in the stomach, paleness of the



face, gripping pains in the bowels, and sometimes fainting. Vomiting speedily follows. Blood, sometimes a pint or more, is discharged at once, and frequently at no great length of time, a similar discharge takes place by stool. If the blood has originated in the stomach, the clots into which it will be formed, will be larger and less broken. If it has been swallowed from the throat, or has made its way from a distant point in the intestinal canal, by a retrograde movement from below, it will be broken up, and, if clotted, will be found in small pieces.

#### TREATMENT.

Blood, when thrown into the stomach in sufficient quantity, is an emetic; thus securing its own prompt discharge. When it passes into the bowels, it is a cathartic; and here, unless the quantity is small, its discharge is speedily brought about. No remedy, therefore, is requisite to promote the discharge of the blood from the stomach. An opinion must first be formed of the cause of the hemorrhage; if it has arisen from suppressed menstruation, no very active treatment will be demanded; probably the discharge of blood has ceased, even before its presence is manifested by vomiting. In some of these cases, however, the quantity of blood discharged, is very considerable. It is thought, that it seldom or never endangers life; and recoveries from it are remarkably prompt. If from the excess of the discharge, it seems desirable to limit its quantity, the patient should be kept perfectly still, and exposed to cold air. I have never found it necessary, in such cases, to do any thing more at that particular moment.

When the discharge of blood has arisen from other causes, we are to direct our remedies accordingly. A discharge of dark blood, scarcely clotted, vomited up in some quantity, but passed in far greater quantity from the bowels, sometimes takes place. It is thought to originate from the liver, and to pass through the gall-duct into the bowels. This form of the disease, we are advised to treat with strong cathartics; and we are told to look with great confidence for a successful result. These cases are not very frequent. When they occur as a critical discharge from a diseased organ, I have no doubt a cure will take place under brisk and powerful cathartics, or under mild ones. Nature has indeed taken the cure on herself. But the diseases of the liver are so frequent and various, and these internal discharges of blood so often vicarious, that is, the discharge is for the relief of a distant organ, that I think

the physician may well look with great anxiety to the result in cases of this kind. As a general rule, I think cathartics should be administered very sparingly, in this disease. The presence of clots of blood, at the source from which it flows, must needs give some pressure towards the closing of the bleeding vessels. And, as I have remarked above, when blood accumulates in quantity, it is itself a cathartic, and promotes its own discharge.

Blood letting, leeching, and blistering, are mentioned as remedies for this disease. The first of these remedies, could it be adopted in the outset, would, I have no doubt, often suppress the discharge very promptly. But to me it appears not to be a very valuable remedy ; for the occasion for its use will generally have passed before the physician has an opportunity to try it. It should not be used after the discharge of blood has been considerable. Leeches and blisters I have never used ; but in chronic cases, I should think they might be profitably employed.

Cold applications, especially the introduction of cold water, iced water, or even bits of ice into the stomach, suggest themselves as valuable remedies in this disease ; and when it is considered, that there is frequently present a strong inflammatory action, which, as long as it continues, renders questionable, or forbids the use of strong astringent remedies ; it will be obvious that cold, used in this way, should be one of our most potent remedies. Experience justifies this opinion ; and, unless it is contra-indicated by manifest prostration and dangerous debility, I think that the application of cold in this way, ought by no means to be neglected.

The internal use of astringents has been more disputed. My opinion is, that they cannot be safely dispensed with, where the disease does not speedily yield to other remedies. In this country the acetate, or common sugar of lead, is regarded with more favor than any other remedy of this class. Five grains of it may be given, hourly, for five or six hours, should it appear necessary. It has not yet occurred to me, to see this hemorrhage continue after the use of the third dose. Nor does it so much matter what may have been the cause of the hemorrhage ; the remedy is equally applicable to cases which arise from the rupture of blood vessels by ulceration, or other cause ; or those which arise spontaneously, or from the numerous causes which have been suggested. Opium should be combined with this remedy, except when there are present a high fever and bounding pulse. It is most conveniently given in the form

of laudanum—from twenty to thirty drops may be administered with each dose of the sugar of lead. In extreme cases, where the powers of life seem nearly extinct, where the extremities have become cold, and the pulse exceedingly low, our reliance is principally on opium. From half a grain to a grain of morphine, or from thirty to sixty drops of laudanum, may be administered, followed by such cautious use of other stimulants, as the case may seem to admit.

A very long list of other astringents, vegetable and mineral, might here be mentioned. I doubt whether a single one of them has much more virtue than the rest. Powdered galls, gum kino, and catechu, are the most worthy of reliance. They are particularly applicable to cases which continue for a length of time. In their power of suppressing hemorrhage, they are in no degree to be compared with sugar of lead; but when the loss of blood is not great, and continues for a length of time, they are considered safer, and I should think it well to resort to them. Five or ten grains in powder of either of these articles, may be given, from one to three or four times a day. Tinctures from these articles may be substituted; twenty to thirty drops at a dose. These substances are not to be used to the exclusion of opium, but combined with it—the opium or laudanum being the more necessary, as the patient may be more exhausted and prostrated.

---

## FOREIGN BODIES IN THE INTESTINAL CANAL.

It is not unfrequent, in horses and cattle, to find large concretions of solid earthy matter in the intestines. The bezoar, long regarded as a remedy for several incurable diseases, is found in the deer; and I have a beautiful specimen of a stone of this kind lately sent me by a friend. I have never met with any thing of this kind in the human body, but have no doubt it is of frequent occurrence in other countries, and the size and weight which are reported of such concretions, are truly astonishing. Authors state, that they become sometimes so large as to be easily felt through the walls of the abdomen; but in most instances, their existence has not been suspected, till their presence was made manifest by the dissection of the dead body.

I should not have written a chapter on this subject, but that substances which pass by swallowing into the stomach, some-

times by accident, and sometimes by design, become, in some instances, a just cause of alarm. Children are frequently known to swallow pins, needles, buttons, small coins, and other things of this description. They are seldom productive of any inconvenience. I have never known any injury to follow the swallowing of pins; needles I have known to pass out of the bowels into the flesh, and finally to make their appearance near the surface, and be removed. I have taken from the thigh of a child, three or four years old, a large sewing needle which it had swallowed several months before; and it had been productive of a great deal of pain, imperfectly described by the little sufferer, during its passage to the place, from which it was finally taken.

It is surprising to see with what toleration the stomach bears even the roughest materials, thrown into it in this way. An insane man has been known to live for months with a stick, several inches in length, which he had forced or swallowed into his stomach. In another case of unaccountable simplicity, a man swallowed a pocket knife, and was induced to swallow several others from time to time, till he had swallowed twelve or thirteen. He lived in this condition a considerable time, but of course could not resist the injury thus done to his vital organs. The knives were found, after death, distributed in various parts of the intestinal canal. I have myself witnessed several cases of alarm, from the accidental swallowing of coins and other solid bodies. In one instance a boy of eight years old, swallowed a pistol flint, remarkably keen and sharp on its corners and edges; yet it passed in two or three days from the bowels, without producing the slightest inconvenience. I have known but one instance of serious injury from the swallowing of bodies of this kind. Two or three years since, a young lady swallowed a quarter of a dollar; it appeared to have lodged about the commencement of the large intestines, where, after a time, it produced great pain and irritation; after a few days the pain would subside, but at an indefinite time return like a fit of colic; producing spasms, fever, and other consequences of partial inflammation of the intestines. The symptoms are no longer to be traced to a particular point of the intestinal canal, but the disorder continues, and the result is yet to be known.

For these disorders and accidents, we are unable to point out any particular remedy. The occasional symptoms which may arise, are to be treated according to the circumstances



which may be present ; but, in general, it is best to offer no remedy, and even the use of a cathartic, would be rather productive of harm than good.

---

## WORMS.

Few things are more humiliating, than the contemplation of the human body, assailed and destroyed by worms, during the life of the individual. The principal varieties of these parasites are found in the intestinal canal ; but there are not wanting instances in which the presence of worms has been demonstrated, in every organ and tissue of the body. We are assailed not only by vermin which creep on the surface, and disgust our senses, but by worms of a far inferior order, which sometimes occupy the cavities, or solid parts of the body, to the destruction of health, and even of life. It is our object at present, to give some account of these worms, more especially, those which are found in the intestinal canal. Of these there are five kinds ; two species of tape-worm, one of round worm, and two others which have been denominated thread worms. Of each of these varieties, we shall take some notice.

### ROUND-WORM—LUMBRICUS.

This worm, although very much resembling the common earth-worm, is of a different species, and incapable of living when removed from the intestinal canal. It measures from six inches to a foot in length, and is male and female, the female being much the larger of the two. In color, they are reddish brown, with a yellowish tint ; and in their motions, they are much more stiff and unwieldy than the common earth-worm. Near its tail there is a slit across, forming the anus, in which it differs from the earth-worm, whose anus opens at the end. The earth-worm is also redder in its color, and has on its under surface, certain points resembling feet to assist it in crawling ; which are entirely wanting in the intestinal worm. By this short description, any one will be enabled to discriminate these worms without difficulty.

The round worm is found, I believe, in all climates, so far as the human race extends. They are more frequent, however, in some countries than in others ; and are manifestly much more common in some districts of the same country, than in

others. They are said to attack persons who are in low health, whose digestive functions are illy performed, and are a hundred to one more frequent, so far as I have observed, in the intestines of children, than in those of grown persons. They are said to be much more common in low, unhealthy places. Holland, certain districts in India, and the West Indies, have been celebrated for the great number of these parasites, found in their inhabitants. I am afraid it would be no more than justice to add to this list, the unhealthy districts in the Southern States, bordering on the sea coast, and extending over the whole alluvial region, including what has been termed the rotten lime-stone country. Nor am I perfectly certain, that the exceedingly healthful region, that crosses the country above this rotten lime-stone, is entirely free from this censure ; for intestinal worms are exceedingly common here. They are often found in children who bear marks of the highest health, and I think it is not too much to say, that the great majority of those raised in this region, between the ages of two and ten years, have, at some time, more or less of these parasites in their bowels.

These worms are evidently propagated in the intestines. They are found of all sizes, and of great variety as to number, sometimes extending to several hundreds. Their growth also must be rapid, for I have observed in some instances, after the successful administration of remedies for their removal, and their discharge in great numbers from the intestines, the same remedy may be administered, after a few weeks, with the same result.

From whence, it may be asked, are these disgusting parasites derived ? If they are propagated as they appear to be like other animals, how do they find their way into the intestines of those who were not infested with them ? Observation and scrutiny have striven in vain to detect the process by which this is accomplished. In times past, when philosophy was young, when it ran, as it were, in drunken riot, and would not stoop to the laborious investigation of facts ; it was believed, that in this, and a thousand other instances which might be named, the generation of these low beings was spontaneous ; that it was not the propagation of animals from generation to generation ; but that, under certain combinations of matter, under circumstances favoring the process, nature, by her own and undivided efforts, created these living beings. The field for this opinion has been gradually narrowed down. The mode in which a great many of these worms are propa-

gated, has been discovered and demonstrated ; and the inference is forced on us with great strength, that every being, having animation and life, owes its existence to a regular propagation, from an original, created by a special Providence. To this opinion, I confess myself entirely wedded. I have no belief whatever, in the equivocal generation of any thing which has life. I am not insensible to the difficulties which surround this question ; or of the weight of authority which might be quoted in opposition to my opinion. Those who deny the regular generation of these parasites, challenge the production of facts to establish their regular propagation. These facts are not to be furnished ; but the world is full of analogous cases, many of which can be traced through a regular process of generation. I have no doubt that the eggs of these worms find their way regularly, and without miracle, to the places suited to their growth and development. The gad-fly in cattle and sheep, and the bots in horses, are easily traced to the eggs by which they are propagated. The worm of the intestines never becomes a winged insect ; but, like plants, may provide for its reproduction by producing myriads of eggs, too small for our examination. These eggs may preserve their principle of life through every change of circumstances. They may be wafted in the air, driven along by the stream, taken in with food or drink, or breathed in the atmosphere, and find their way through the current of blood to a place suitable to the inscrutable purposes of nature. This may be difficult to believe ; but not near so difficult as the belief in an unproved spontaneous vitality.

I have said that worms are frequently found in the intestines of children, apparently enjoying the highest health ; I believe, however, that they are found in greater numbers in those whose health is of a low standard, and especially in the inhabitants of low, damp situations.

The round worm takes up its abode in the small intestines ; but some times ascends into the stomach, passes up the œsophagus, to the throat, and even tries to make its escape through the nostrils. There is good reason to believe, that they are in this way sometimes peculiarly dangerous ; for they have been found after death so wedged into the upper orifice of the wind-pipe, as to have been a manifest cause of strangulation. In other instances, they descend below the small, and into the large intestines, where they always seem to be ill at ease, striving to make their escape through the anus.

## SYMPTOMS.

Worms are frequently present in the intestines, without producing any symptom, which may apprise us of their existence. It is not uncommon in this country, for careful mothers and mistresses, to give to the children of their households, remedies for worms without regard to the absence of complaint, or evidences of high health. In such instances, I have, many times, witnessed a discharge of many worms from children that appeared to be in the enjoyment of the highest health ; yet these cases are less common, than the discharge of equal, or larger numbers, from those who had previously manifested symptoms of their presence.

The most common symptoms of worms, may be summed up in a few words—pains, resembling colic, swelled belly, pricking at the nose, itching anus, foul breath, and grinding of the teeth in sleep, capricious appetite, and great emaciation or wasting of the flesh. Graver symptoms are not unfrequently attributed to worms—cough, nervous disorders, paralysis, convulsions, loss of sight, and loss of hearing. These symptoms are, as I think, very frequently improperly attributed to worms. But the more common symptoms which I have first mentioned, are of every day occurrence ; and when they are striking in degree, we shall seldom be disappointed in the discharge of worms, if the proper remedies are administered.

It was formerly a common opinion, that these worms were a frequent cause of fever ; but this opinion seems to be less advocated now. I think that fevers more frequently arise from this cause, than is now generally believed. I have often met with cases of violent fever, with great pain and tenderness in the region of the abdomen, which readily yielded, when the discharge of numerous worms was brought on, by the use of proper remedies. It is true, a fever of this description will commonly yield to the mercurial cathartics, and other remedies which we usually administer for worms ; but giving to this fact due weight, a patient observation has brought me to conclude that the number and mechanical action of these worms of the intestines, often produce fever, without any other cause ; indeed it would seem, that it was a rational mode by which nature would throw off so dangerous an evil. The heat and altered contents of the bowels in a state of fever, is, I have no doubt, fatal to these worms. If a fever of a high grade continues for four or five days, in a person who has worms, they



are commonly discharged, either entirely dead, or so nearly lifeless, as to be scarcely able to move.

#### TREATMENT.

The first object in the treatment, will of course be the discharge of these parasites from the intestines ; and it is pleasing to know that we are furnished with a few remedies having this power ; substances poisonous to worms, yet not too poisonous to be safely given to patients in whose bowels they are contained.

By far the best remedy of this class, is pink root, *spigelia Marilandica*. This may be given in substance, or in infusion. A child of six years old may take twenty grains in syrup, evening and morning, for two days, when it is to be followed by a cathartic of castor oil : but the mode in which I most frequently administer it, is, to take a quarter of an ounce of the root, pour on it half a pint of boiling water, and set it near the fire in a covered vessel, for half an hour. Half of this infusion is to be given to a child six years old at night, and the remainder in the morning. Sometimes it operates as a cathartic of itself ; but when it fails to do so, after a second portion is taken, a dose of castor oil may be administered. These remedies may be repeated daily, for one or two days, if it is thought necessary. This simple treatment is the most successful, which I have ever seen adopted for the expulsion of the round-worm.

But there are other remedies which are entitled to great, if not to equal confidence. The first I shall mention is also a plant of common growth in this country, the *chenopodium*, or worm-seed. These seeds have long been used, for the destruction of the round-worm. They are gathered when ripe, in September, and given to the extent of a tea spoonful or more, mixed in molasses or syrup. This is a convenient, but uncertain mode of administering this remedy. If repeated for a few days, and followed by some brisk cathartic, if worms are present, they will be very apt to be brought forth. The volatile oil distilled from these seeds, has of late found its way into our drug stores ; and forms a more certain means of administering this remedy. From five to ten drops of this oil may be given on sugar, or well stirred in syrup. It is pungent, and offensive to the taste ; but I have no doubt it is destructive to the worm. It may be repeated, from day to day, for two or three days ; but in all cases should be followed by a cathartic of some kind.

The pride of India, or common China tree of our streets, affords also a powerful remedy against worms. I have never known it given with much care, to ascertain the quantity administered. The root, fresh from the ground, is taken, and the bark pared off with a knife. In this state it is placed in a cup; boiling water is poured over it, and it is placed by the fire for half an hour. The root is used in such quantity as to secure a strong infusion; from half a gill, to a gill of this infusion, may be given, evening and morning, to be followed with a mild cathartic, under the same restrictions observed in the use of pink root. It should not be repeated, more than two or three days in succession.

Now it could hardly be expected, that remedies with powers to destroy animals of the low order of intestinal worms, could be at all times used without inconvenience. It is rather a matter of surprise, that remedies with such powers, could be borne at all. With the remedies which I have mentioned, we have the greatest reason to be entirely satisfied. I have never known serious evil from the prudent use of either of them. Pink root, it is well known, produces sometimes a peculiar action on the brain, with some degree of stupor; which continues for many hours. This has occurred under my own hands, when I have administered the remedy with all the care of which I am capable; but I never have known it result in death, nor have I known the slightest permanent evil result from it in any case. I can say quite as much for the worm-seed, when administered in substance; but for the essential oil, especially Fahnestock's vermifuge, which from its sensible qualities seems to depend for its activity, on this oil, I can not report quite so favorably. I have known a violent and dangerous inflammation of the bowels brought on by the use of this nostrum. This, however, did not prove fatal; nor do I know that an instance can be produced in which a fatal mischief has been done by this remedy, in any form. For the pride of India, I cannot make quite so favorable a report; it is frequently administered in a random way for the removal of worms, whether present or absent; and it cannot be thought strange that it should sometimes be used imprudently. I once knew a servant woman, by mistaking her directions, to give strong doses of the infusion of this root, to several children, twice a day for three weeks, without the intervention of any cathartic, or other remedy which might have mitigated its influence. A low inflammatory, or rather hectic fever followed, of which two of the children died, and the rest escaped with some difficulty. Un-

der such administration of medicine, it cannot fail to do much more harm than good. Still I have no hesitation in saying, that these three remedies for the round-worm, administered as I have advised, are entirely safe. I believe them not only equal, but far superior, to any other remedy in our possession.

Since writing the above, I have examined the essays of Doctor Watson, and Doctors Beall and Stokes, in reference to the remedies for the expulsion of worms. I find that they use principally active cathartics for this purpose, especially calomel and jalap, and other equally drastic purgatives. I have no doubt, that these remedies, repeated from day to day, will at last expel from the intestinal canal a great proportion of the worms it may contain; but I have not the slightest hesitation in preferring the remedies I have above recommended. I object to this repeated use of cathartics, from the great debility it causes, and from the irritation or inflammation it would bring on, if too long persisted in. The remedies I have recommended, have been called specifics; and they are well entitled to this appellation; for in their effects on the system, and in their sensible qualities we should find it vain to seek for the reasons, from which they become poison to worms—they are indeed specifics—poison to worms, but not to children.

I have suggested already the greatest difficulty in the management of cases, in which there are worms in the alimentary canal; it is this—they are so speedily reproduced. They may be expelled with great certainty; but how are we to hinder their reproduction? Authors say to us, give tonics, restore the tone of the digestive organs of your patient; and they will not reproduce worms. I am far from thinking this as easily accomplished as it is advised; yet I am not prepared to say that I have any thing better to offer. When from the treatment I have advised, worms are expelled from the alimentary canal, a course of strengthening or tonic medicines should be taken up, and persisted in, for a length of time. This is the best that we can do; and we have the consolation of knowing, that when our patients are from year to year, protected from such an enemy, they are growing older, and less and less liable to its attacks; and that, so far as it regards the round-worm in particular; its presence is not at all to be feared, after the age of twelve or fifteen years. Such is my experience in the country in which I have lived.

The favorite tonic of writers is iron, combined with various aromatic substances. I adopt with great pleasure the following from Doctor Bell: Take of rhubarb five grains, carbonate

of iron ten to thirty grains, ginger five grains, to be made into a powder, and given daily in syrup. If the white ginger is used, it is of much greater strength, and should be lessened in quantity. The rhubarb in this prescription, is intended to hinder the constipation which frequently attends the use of the preparations of iron. Its quantity should be lessened or increased, according to its effect on the bowels.

It would be endless to enumerate the aromatics and bitters which have been recommended in these cases. If the vegetable tonics are resorted to, gentian is the most powerful. The compound tincture of this medicine may be given in doses of from twenty to sixty drops, before breakfast, and before dinner. The watery infusions of cherry-tree and dog-wood bark, with rue, or other bitter vegetable matters, are proper enough in their places. If the patient is much emaciated, and very feeble, a moderate use of brandy or wine will be proper. Nor should the use of nutritious diet be neglected, for the restoration of the most vigorous health. An efficient and powerful digestion is our greatest reliance against the increase of worms in the intestinal canal.

I have observed, that when persons who have been troubled with worms, have acquired a certain age, these parasites make their escape from the intestinal canal. I have, in various instances, been called by children of ten or twelve years of age, to witness their expulsion of the round-worm in hardened fæces, and apparently nearly dead. Such children will not trouble you again with their complaints of worms. While I am writing this, I am informed of a young acquaintance, who, within a few days past, became sensible of the presence of a worm in his lower intestines. It had been so restless and uncomfortable in its place, as to excite a good deal of uneasiness in his mind, but it was discharged spontaneously, a day or two ago; and I venture the prediction, that he is to experience no farther trouble from the round-worm.

I have omitted the mention of a class of remedies which have been called mechanical; consisting of crude mercury, filings of tin, cowhage, and perhaps some other articles. The whole of them are in my opinion, either inconvenient, or objectionable. I have never used, and do not recommend them.

#### THREAD-WORMS—ASCARIDES.

These worms, which are very seldom found in the stomach, are from some strange fancy, generally called stomach worms. They also most commonly attack children, but with by no



means that exclusive pertinacity, which we have seen in the round worm. They are not considered dangerous; but in some of their symptoms, they are exceedingly annoying.

The thread worm, as its name would imply, is very small, resembling a white thread, less than an inch in length. They are exceedingly active; and, when first voided, throw themselves about with violent contortions. They are said to be very perfect in their structure, to be of two sexes, and to propagate their young in the same manner with more important animals.

There is, so far as I know, but a single symptom, by which the presence of this little disturber, is made manifest. This symptom is an itching at the anus, not at all times felt with equal intenseness, but coming on by spells, with an effect truly tormenting. Children are very frequently seen rubbing and scratching themselves, to get rid of this annoyance. The part of the intestinal canal occupied by these worms, is principally the rectum; and it is here alone, that the symptoms of its presence are made manifest.

The thread worm, although the most insignificant in its size, and harmless in its effects, is said to be the most difficult of all worms to expel from the body. Purgatives are not considered particularly applicable to their removal; for they are placed at the extreme end of the intestinal canal, where they can be affected by these remedies only at the moment of their exit from the body.

Injections have been thought far preferable in these cases; and the infusions of bitter vegetable productions have been thought particularly efficacious. The infusions of quassia, camomile, gentian, and other bitters have been recommended; my own preference is in favor of salts and senna. Take half a pint of strong senna tea, dissolve in it an ounce of Epsom salts, use this as an injection, in such quantity, as the child, from its size, may be expected to receive and retain. I have seen the thread worm brought away in great numbers by these injections. To grown persons I have administered purgatives, calomel and aloes with very satisfactory results. Aloes and senna, in infusion, have been recommended for the same purpose; but from their offensive taste, I have never advised this combination. By a treatment thus simple, I have almost always seen the thread worm successfully expelled; and it is not from my own experience that I should have classed this worm amongst those most difficult to be gotten rid of.

The pertinacity of this worm in holding on to its position, in

spite of all the remedies I have mentioned, has been very much complained of by writers. They have advised the use of mechanical means, which I have never found it necessary to resort to ; but I have no hesitation in recommending those means, in cases in which it may be necessary. The torment of these worms, when concentrated in great numbers, at their favorite resort, the verge of the anus, has led to the use of the finger for their dislodgement. A finger dipt in oil, thrust in, turned around and withdrawn, is said to have been used to the successful dislodgement of hundreds of them in a moment. A bit of candle, or a piece of fat meat thrust in and withdrawn, is said to have been equally successful. I have no experience with these remedies ; but they are so simple, and at the same time, so reasonable, that I have no hesitation in commending them to the attention of those who may require their use.

I must not omit to mention a larger worm, very much resembling the ascarides I have been describing, being equally slender, and of three or four times its length, but which is seldom seen except in the dissection of dead bodies. Its residence is about the centre of the intestinal canal, at the end of the small, and the beginning of the large intestines. It is, I believe, never found in great numbers ; and is not known to produce either pain or inconvenience. It is only mentioned because the passage from the bowels of a single individual of this species, some times give rise to great uneasiness. It is sufficient to say, that there is no just foundation for this apprehension, and no remedy required in such cases.

#### TAPE-WORM—TENIA.

This enormous parasite is comparatively rare in this country ; only two cases of it have come under my immediate notice ; one in a traveller from the western country, and one in a boy a native of this place, Milledgeville Georgia. It is by far the largest of the worms found in the intestinal canal. They are represented perhaps, with considerable exaggeration, to have reached the enormous length of a hundred and fifty feet ; they are seldom, however, more than twenty feet in length ; and I do not give full credit to statements which represent them as being much more than thirty feet. Although the largest, they are unquestionably the lowest order of worms, having apparently no voluntary motion, no organs, no division into sexes, or any thing but size, to raise them from the very lowest order of vitality.

The name of tape-worm, gives a very good idea of the appearance of the animal; its colour is white, and its form is flat and extended, very closely resembling a piece of tape. It has, however, a manifest head, and near that head a narrowness which may be compared to a neck. It is not known, however, that it attaches itself by this head, but seems to rest against the walls of the intestines, adhering simply by the mucus in which it is enveloped; and sometimes occupying the entire length of the intestinal canal. Towards its head it is broader, sometimes two thirds of an inch in width; it is divided into joints, and, as it extends towards the tail, becomes narrower, terminating as it were in a point. The last joints are sometimes broken off, and voided from the intestines, resembling very much the seeds of cucumbers.

Of the tape-worm, there are two species, not differing very much in their appearance, and having, so far as I know, the same habits, and producing the same effects. It is of but little consequence to be able to distinguish one from the other; and there is, so far as I know, no means of doing so, till the worm has been discharged from the body. They are found of the same species in the intestines of various animals, and especially monkeys, dogs, and men.

The most unequivocal symptom of the presence of tape-worm, is the discharge of pieces, or joints broken off. Whether these pieces would, if retained, grow, and serve as a means of propagating the animal in numbers, is to me a matter of doubt. Nature seldom does things by halves; and having provided the tape-worm with almost an indefinite power of growth, so that a single individual may occupy the whole of the room which can be afforded it in a single intestinal canal; it is commonly found alone, and these detachments or portions, if they have a vitality susceptible of growth, are still discharged. There are, however, some examples of several being found in the intestines at the same time. But the symptoms of its presences in the bowels, although in the first instance obscure, may, after the worm has acquired considerable size, be commonly recognized. These symptoms are, uneasiness at the pit of the stomach, which is lessened by the eating of food, irregular appetite, sometimes inordinate and craving, and at other times loathing of food, itching at the anus, and nose, nausea, pains, as of colic, grinding of the teeth, and foul, sour breath. They are said to occur most frequently in persons who are well fed; but after they have been for sometime in the intestinal canal, a visible effect on the countenance is produced. The complexion

becomes pallid, the limbs shrunken and emaciated, and the belly tumid. These symptoms, it will be observed, are common to the round-worm also. An additional symptom which is thought to signify the presence of tape-worm, may be mentioned; the motions of the tape-worm are sometimes obvious to the patient, which is seldom the case with the round-worm; although to this also there are exceptions. We are left then to the bare suspicion that a tape-worm may be present. When, from using without effect the ordinary remedies for the round-worm, we are led to suspect the presence of tape-worm, we are still without the positive proof that there is a worm of this kind present, unless portions of it have been discharged.

#### REMEDIES.

The essential oil, or common spirits of turpentine, has acquired a reputation for the removal of this worm, which has thrown into the shade, the credit due to all others. It is given in quantities, which would, from its sensible qualities, appear to be enormous. A table spoonful, or even twice this quantity, stirred briskly together with an equal quantity of castor oil, may be given in the morning, or at any time after many hours' fasting. Intoxication and stranguary, the acknowledged consequences of spirits of turpentine, are said to have occurred less frequently under these large, than under smaller doses. When they do occur, they are but temporary, and have not produced any fatal result in a single recorded case. This remedy should be followed with mild cathartics, given from six to twelve hours afterwards, such as Seidlitz powder, calcined magnesia, or rhubarb. These remedies should be repeated, from time to time, so long as the smell of violets is manifest in the urine; for the spirits of turpentine which produce this smell should be entirely expelled from the body. This remedy apparently so rash, has been proved by sufficient trials, to be entirely safe. If the first dose so administered is not successful, it may be repeated after a day or two; but the worm, if present, is commonly discharged dead, in a few hours. It is but too frequent, however, for a portion of it only to be discharged; leaving the head and some portion of the body still alive; in which case it grows again, and all the troubles attending it are renewed. In the only case which I have had to deal with throughout its whole course, portions of the worm were thus discharged, three or four times in a series of years; but at last the whole worm being discharged, the patient has



remained, many years, without any symptom of its presence.

I will mention one more remedy for tape-worm; it commends itself, not only from the reputation it has acquired for the discharge of this worm, but from its being a simple vegetable substance of safe and very common properties. This remedy, is the bark of the root of the common pomegranate. Let it be dried and reduced to powder—twenty grains of this may be given in any convenient vehicle, hourly, for five or six hours, if necessary. But a decoction made from the bark of the fresh root is equally effectual, and has, with many, a decided preference over the powder. Scrape the fresh bark from the root, and boil it in water, so as to make the strongest decoction you can. Of this decoction give two ounces, or a common wine glass full; and repeat it, if necessary, three or four times in the course of the day. This also, should it not of itself operate as a cathartic, should be followed by a moderate dose of castor oil, or such other mild cathartic, as may be thought desirable to give to the bowels a brisk cathartic movement. This remedy has been found scarcely less efficient in the discharge of tape-worm, than the essential oil of turpentine.

#### GUINEA-WORM—DRACUNCULUS.

This parasitic worm has its residence in the equatorial, or intertropical regions of Asia and Africa. It is often met with on the coast of Guinea, and has from thence acquired its common name. Its history is but illy understood; but it is of frequent occurrence, and is considered infectious, or some way transferable from one person to another. It has been so injurious, in certain instances, where ships had visited the coast of these unhealthy countries, that nearly half of the crews of armed vessels have been rendered, for the time, unfit for service.

The Guinea-worm is exceedingly small, slender and long, scarcely larger than a thread, and varying from six inches, to six feet or more, in length. It seems to enjoy a very low organization. Its entrance into the skin is never observed; but the first that is known of it, it is found to have acquired considerable length, extending along under the skin, or between the muscles, through the adipose or fatty membrane, as far as its length requires. It is commonly alone, unattended by any companion; but to this there are many exceptions, several being found in the same individual at the same time; and although the monster has not proved to be of various sexes, its

body is often found containing myriads of living young ones.

For a time, the Guinea-worm seems to produce no inconvenience to those who are attacked by it; but in its own time, it excites an inflammation of the skin very like a common bile, causing extensive suppuration, and sometimes hemorrhage from the part. The patient is now seriously diseased; and if, from injudicious attempts to extract it, the worm is broken, very serious mischiefs arise; suppuration happens in various parts of the body, and even life is sometimes endangered.

There seems to be but one mode of getting rid of this worm. When the suppuration has taken place, its head is easily gotten hold of, and by very cautiously extracting it, it may be entirely removed, and the place it had occupied will readily heal leaving very little injury. But it is exceedingly dangerous to attempt the entire extraction at one time; a few inches may at first be extracted, and should be rolled on a small stick, or something of the kind, and secured in its place. Sometimes the extraction cannot be effected for many days, or even weeks; and great care is to be taken that the body of the worm is not broken in the process. In some instances, the course of the worm may be felt under the skin for a great distance; in which case it is advisable to cut down to it, at this point; and having passed something under it, both ends may be thus extracted at once.

#### WORMS NOT FOUND IN THE INTESTINAL CANAL.

Besides the worms usually found in the intestinal canal, there are met with, in other parts of the body, several varieties of organized, animated beings of this description. They descend to the very lowest order of creation; and some that have been denominated worms, seem to be scarcely entitled even to a name so low.

It is very rare to meet with worms in any other part of the body, except the intestinal tube. In certain cavities, however, worms are occasionally met with. I have, in two instances, seen them discharged with the urine; whether originating in the kidneys or bladder I had no means of ascertaining. These worms were, in one of these cases, very numerous; about an inch in length, apparently well formed, having red heads; they were discharged dead, so that their motions were not observed. Considerable irritation of the kidneys and bladder attended this case; but there was nothing peculiar in the symptoms which might have indicated the presence of these worms. The

gall-bladder, which has a duct through which its contents are discharged, and has thus far some resemblance to the urinary bladder, is sometimes found to contain worms. There are no symptoms, so far as I know, by which their presence may be suspected before death. In various other situations, worms apparently fully organized, have been met with, even in the solid parts of the body. Other animals besides men, are apparently more subject to the attacks of these parasites. I have seen in the eye of a horse, a white worm which played about in the humours of the eye, with great activity. The vision of the eye was destroyed, and the horse appeared to be in great pain; but there was neither swelling nor any other alteration of the eye, by which its presence could have been disclosed. It was in the chamber of the eye, behind the iris, and was apparently two inches or more in length; but was only seen when from its movements it passed before the pupil of the eye. I had no opportunity of seeing it after it was extracted. All these cases are so rare, that it is only necessary to mention them in this place. They are, in most instances, beyond the reach of our investigations or remedies.

There is yet a lower order of worms, which are sometimes found in the human body; they are most frequently met with in the liver; but they are sometimes found in the adipose substance, in other parts of the body, forming for themselves sacks, in which they enjoy their very low order of existence. There is hardly a single part of the body in which animals, if indeed they be animals, of this kind have not been met with. The form of these creatures is that of a bladder, or little sack; they are denominated headless; and they form one within another like boxes, containing several, one within another. They are filled with a watery fluid; and the whole, for the most part, perfectly transparent. Low as these creatures are, they are sometimes formidable, even fatal. In the liver, they grow to a great size, producing inflammation and suppuration. Abscesses from this cause have frequently been opened, and many of these sacks discharged. Now this whole tribe admit of no medical treatment. If they form abscesses which can be opened, and their contents discharged, there is a hope of the final recovery of the patient; but the disorder is generally fatal, and we are left with the single consolation, that it is rare.

---

## DISEASES OF THE LIVER.

From the great size, important functions, and central position of the liver, its diseases are matters of the deepest interest. In this climate it is by no means rare to find this organ, in a state of disease totally destructive of health, and dangerous to life. It cannot be said, however, that these diseases are very various in their character. Those met with most frequently, arise from disorders of the digestive functions; but the autumnal fevers of this climate are productive of great disorder in this organ. Inflammation, either acute or chronic, forms the principal derangements which are met with in the liver. Other diseases, it is true, are of frequent occurrence in it : but even these are all productive of more or less inflammation, and it is commonly left to post mortem examinations to point out their particular character.

### INFLAMMATION OF THE LIVER.

This disease is divided into the chronic and acute forms. These forms are less distinct in this, than in other organs of the body, in consequence of the low degree of sensibility in the liver, which lessens the intensity of pain, even when its inflammation is most acute. Nor is it easy to decide, to which class, the acute or chronic, a particular inflammation of the liver belongs. It may be best, however, to treat of this disease under the divisions which have been found so useful in other cases. We shall, therefore, first take into consideration the disease in its acute form.

### ACUTE INFLAMMATION OF THE LIVER.

This form of inflammation of the liver is known by the suddenness of its onset, on persons who had previously enjoyed good health. It comes on with sharp, severe pain in the right side, extending from the region of the liver to the shoulder ; and, in some cases, extending even to the left shoulder, and attended with fever, sometimes, very high. The patient is unable to lie on his right side, breathes with some difficulty, is frequently affected with hickup and vomiting, sometimes throwing up large quantities of dark bile. Cough also is present in this disease ; and in this we find the greatest source of obscu-



city in understanding it. For the cough is naturally referred to diseases of the lungs; but in this disease, the cough is dry and short, and is frequently absent, except when brought on by some movement of the patient. Great variety is found in the symptoms of different cases of this disease. The pain is sometimes sharp, at others dull, sometimes most acute at the top of the shoulder, at others extending along the collar bone towards the neck. Jaundice is sometimes, but not always present. The main reliance in forming a judgement of the remedies which should be used, is to be formed from the violence of the fever, and the rapidity manifest in the course of the disease. Acute inflammation of the liver, is of itself a violent and formidable disease; and the patient sinks under it in a manner very distinct from the slow and imperceptible movements of the chronic inflammation of this organ. Remedies, therefore, are to be used in proportion to the violence and intenseness of present symptoms.

Acute inflammation of the liver, like other diseases of like kind, tends to a speedy dissolution or destruction of the organ. Suppuration is, I will not say in this climate, a frequent occurrence; but from the accounts we have of its ravages in the Eastern Hemisphere, it is there very common. In this climate, however, a lower degree of disorganization and injury is apt to occur. The liver adheres by its external surface to the outer wall of the abdomen, a chronic inflammation ensues, sometimes the function of the liver becomes deranged, producing diarrhœa or jaundice; but it will rarely, under proper treatment, terminate in death. The disease in this climate is not of common occurrence. It seldom arises in bilious fever; and, in this respect, as before suggested, it differs widely in its history here, from that which is written of it in the East.

When suppuration in the substance of the liver occurs from acute inflammation, it is apt to produce an abscess of enormous size. It is easily felt through the walls of the abdomen; and, being closely pressed by surrounding organs, by a beneficent law of nature, adhesion takes place; and the matter without escaping into the peritonæum, finds its way towards the surface. The parts covering it become at last so thin, that the fluctuation of the matter becomes very obvious, and the abscess may be opened with ease and safety. Sometimes this adhesion takes place between some portion of the intestines and the liver; the parts give way before the pressure of the matter, and an opening into the intestines is made for its escape. In other instances, it penetrates in like manner into the

lungs, from whence it is coughed up, relief obtained and life preserved, even under circumstances so perilous. But patients are not always so fortunate in this disease. The pus sometimes bursts forth into the cavity of the abdomen, before sufficient adhesion had taken place, and death speedily follows. The operation of puncturing being sometimes prematurely performed, leads also to the same result. And there are not wanting cases in which the matter has opened a way for itself into some of the larger blood vessels, throwing at once an enormous quantity of pus into the blood, which produces a speedy dissolution.

#### TREATMENT.

This, like other acute inflammations, is to be treated with remedies corresponding with its violence. Bloodletting should be resorted to without delay, and repeated within a reasonable time, if the disorder does not give way. Leeches over the region of the liver, are strongly recommended ; but in this, as in other inflammations of deep seated organs, I think they are to be placed among the second rate remedies. Blistering extensively, after copious bleeding, is, I have no doubt, a most valuable prescription. Cathartic remedies have been offered with more hesitation ; and calomel, especially, has been thought not very desirable in the onset of the disease. It is true, cathartics give motion to the intestinal canal, promote an active secretion of bile, and thus specially stimulate the liver. These, it is true, are objections to cathartics ; but they are, in my opinion, far outweighed by the valuable effects of these remedies, in reducing inflammation, and discharging the detained contents of the liver and intestines. Even in the East, we have high authority for the use of calomel in large doses ; and its ordinary effect, a salivation, has by some been looked for with the greatest anxiety. For my own part, I have no hesitation in recommending for this inflammation, the same remedies which have been found proper in inflammation of other organs. I should give calomel in doses, of five grains, repeated three or four times in twenty-four hours, with such use of the antimonial mixture, as the stomach might bear, without producing too much vomiting. I should begin with a table spoonful every two hours, and increase or lessen the quantity, according to the effect produced by it. In this decided way, I should treat acute inflammation of the liver ; persisting in my remedies as long as the strength of my patient, and the violence of the fever seemed to require and justify their use.

I have not mentioned opium as a remedy for this disease. It is only necessary where, from the intenseness of the pain, or the prostration attending the severe operation of medicines, it may seem to be particularly demanded. It should be given in full doses and at long intervals ; and unless the symptoms were rather extreme, I should avoid its use altogether, till suppuration has taken place and the matter of the abscess is discharged.

When this disease is of a high grade, and gives way suddenly, the patient will require such support from strengthening remedies, as we are in the habits of using, under like circumstances. Quinine, in doses of two grains, repeated six or eight times in the twenty-four hours, may be administered for a few days. Brandy, in such light portions as may seem admissible, will also be proper. But should the disorder seem to terminate imperfectly, it becomes chronic ; and we shall consider more fully its mode of treatment hereafter.

#### CHRONIC INFLAMMATION OF THE LIVER.

The symptoms of chronic inflammation of the liver, differ mostly in degree, from those which have been described in the acute. The degree of fever which attends it is much lower, sometimes not noticed at all. The patient, in many instances, continues in the ordinary pursuits of life, sensible that he is very unwell, and having commonly considerable accession of fever at night. The liver, in these cases, is often so much swollen, that it may be felt passing out from under the ribs of the right side. It is seldom very tender ; a considerable pressure may be made on it, without inflicting much pain. In other instances, however, the liver is not enlarged, and cannot be felt in this way. More or less pain, however, will be felt in it, and the shoulder on the right side, will probably experience fully as much pain as the liver itself. I have known the pain to extend to both shoulders, producing great inconvenience to the patient while he remained in bed, and a stiffness of the arms in the shoulder joints, which render motion extremely difficult. At the same time, the liver, although swollen and easy to be felt, seemed to experience but little soreness, and scarcely any pain.

#### CAUSES.

The symptoms of chronic inflammation of the liver are so obscure, that a reliable judgement can hardly be formed of it,

without the study of its remote causes. When the case is a termination or extension of the acute disease, its nature will be more readily ascertained. In addition to acute inflammation, the chronic form of this disease frequently arises from chill and fever, or the autumnal fever common in this climate. The abuse of distilled or fermented liquors, is no uncommon cause of it. And when the habits of the individual complaining of the symptoms we have mentioned, are those of excess, the presumption is very strong in favor of the liver being diseased. In addition to these, the liver seems to have causes peculiar to itself—the formation of hydatids frequently takes place in this organ, producing an inflammation, as slow as it is unmanageable.

Great emaciation, or wasting of the flesh, is the common consequence of chronic disease of the liver; the complexion becomes sallow, and a low dry cough is observed; great despondency of the mind, swelling of the feet, and finally a dropsy of the abdomen, too frequently brings this disorder to a close. Jaundice is the very common attendant of this disease; but it is by no means essential to it, for I have seen in some, a brightness of the eyes, and a waxy paleness of the face, and especially of the fingers, which I have met with in equal degree in no other complaint.

#### TREATMENT.

The treatment of chronic inflammation of the liver, does not differ widely from that of other disease, of low inflammatory action. A great degree of prostration usually attends the disease, and bloodletting, so necessary to combat the inflammation, is advised to be done by means of leeches. Mercury in the form of calomel, four or five grains at a dose, repeated daily, is also advised; but purgatives of salts, or salts and senna, are advised, to be used from time to time, to prevent a salivation from taking place. If the patient is not too much reduced, moderate exercise is advised, and the use of food that is not too poor or innutritious. Iodine, given in moderate doses, say ten drops of the tincture twice a day, may be continued for a week or two at a time; and, in the event that the case proves obstinate, great stress is laid upon the advantage of sending such patients to such mineral waters, as have a cathartic action; such, for instance, as the waters of Saratoga.

This treatment may answer for cases attended with great degree of prostration, and where the powers of the patient are already nearly exhausted. My own opinion is, that it is suited



only to cases that are already almost hopeless. Where the patient has any constitutional power left, which may be relied on to sustain him under treatment at all active, I advise a much more vigorous course.

Bloodletting is, in my opinion, by far the most important remedy in the treatment of chronic inflammation of the liver. It is a prevailing notion, that this is the most exhausting of all remedies, and therefore unsuited to the treatment of diseases in which there is a great degree of debility. It is true, that bloodletting may be so used as to be the most exhausting of remedies; but, over other exhausting remedies, it has the advantage of being used just to the degree we desire, and no farther. It may be taken by weight and measure; and in no disease is it more proper to regard the exact quantity of blood drawn, than in that which we have now under consideration. I know no disease in which I have used moderate and frequent bleeding with more advantage than in this. I have bled patients, from whom I thought it unsafe to take more than six ounces of blood at a time, and yet have found them to improve under its effects, while it was repeated, once or twice a week, for months together. If I were to select a disease, which having to all appearance the most fatal tendency, and would yet give way to perseverance in the use of this remedy, I should instance chronic inflammation of the liver. I shall not forget an instance in which, from the extreme sensibility of my patient, his skin could not endure the application even of mercurial ointment without being covered with blisters; and whose intestinal canal had become so excitable, that even a grain of calomel could not be tolerated, but acted as a violent cathartic; and yet this case yielded to the lancet, and a perfect cure was effected by drawing eight ounces of blood at a time, about twice a week, for three months. I have had many similar examples of the good effect of bloodletting, when used in this way; and I scarcely know to what degree of prostration the patient is to be subdued, before he can be pronounced too low to admit of bloodletting.

Where there is much fever, with corded pulse and considerable restlessness at night, the antimonial mixture is a powerful and necessary remedy. It should be given in broken doses, say a table spoonful once in two hours, during that portion of the day in which the fever is highest; but it is not to be persisted in, after it operates on the bowels as a cathartic; and probably it will seldom be necessary to give more than three or four doses of this medicine, in the twenty-four hours.

Calomel is another remedy of no secondary value in this disease. I have great faith in giving three or four grains a day, till a slight salivation is brought on; but I have frequently met with cases in which of all remedies this appeared to be tolerated the least by the bowels of the patient; even a grain or two producing a great many operations as a cathartic. I have, in such cases, made application of mercurial ointment to the skin; and where I have found it disposed to inflame the surface and produce blistering, I have still repeated it from day to day, by making an application first on one part, and then on another of the body; and it is after a persevering use of mercury in cases like this, that I have seen the greatest benefit from it, when a slight salivation was brought on by it.

In the treatment of this disease, its chronic character should never be lost sight of. It should all the time be recollected that the reduction of the circulation to a given point, would not effect the removal of the low inflammation and disordered structure of such an organ as the liver. Time is required for this process; and he who, by violent measures, pushes to the extermination of the disease, should be well on his guard, for the efforts he makes may thrust his patient over a precipice from which he cannot recover him.

---

### JAUNDICE—ICTERUS.

This disease is universally known by the yellow color it gives to the skin. In the negro, this yellowness is seen only in the whites of the eyes; but here it is truly conspicuous. The yellowness extends to every part of the system, far beyond the circulation of red blood; it is not only seen in the whites of the eyes, and in the urine and perspiration, but extends, in some cases, even to the humors within the eye, giving to every object the same yellow tinge in its appearance. While this is the case throughout the body, and in all the fluids which pass from it, the contents of the intestinal canal lose their accustomed hue, and become pale, ash colored, or white. While this continues, the yellowness of the skin is on the increase; the patient acquires a greenish hue, sometimes so dark as to have acquired the name for it, of black jaundice.

In addition to the yellow color of the skin and secretions, jaundice is usually attended with symptoms sufficiently distressing—vomiting, hickup, and sour eructations, flatulency,

languor, despondency, and more or less pain about the pit of the stomach. This pain is rather mitigated by pressure; and patients are seen leaning on the edge of a table, or in other similar situations, for relief. The skin is usually cold, with occasional chilliness; but sometimes fever is brought on, and continues throughout its whole course.

Jaundice arises from many causes. It consists, no doubt, in the presence of an enormous quantity of bile in the blood; but this bile is thrown into the blood in various ways; those which investigation has rendered obvious, are purely mechanical. In its passage to the intestines through the gall-duct, the bile is sometimes arrested by gall-stones, or bile which has, from some cause, become too tenacious or thick to flow through so narrow a passage. Pressure on these ducts from any external cause, a tumor in the liver, or any adjoining organ, may produce the same effect. But the disease frequently arises, without any cause of this kind, or any other that we can pretend to assign. It is sometimes an epidemic, affecting a great many individuals about the same time, and has been known to arise from various occasional causes. It is met with most frequently in old persons; but is occasionally seen even in an infant of a few days old.

#### TREATMENT.

When jaundice arises from internal and incurable organic diseases, it is manifestly very little under our control: but it is a very frequent disease, independent of such causes; and although exceedingly disagreeable, cannot be regarded as very dangerous. The great object in the treatment, is to produce a flow of the bile into the intestinal canal. This is effected by emetics or cathartics, mercurial cathartics especially. I am in the habit of using the most active cathartic medicines: take of gamboge eight grains, calomel twenty grains, make it into six pills, give two of these pills every four hours, till free evacuations of the bowels are brought on. If these evacuations are found to be of a dark color, the cure will probably follow with but little delay; if they retain their whiteness, the patient will probably experience no relief, and the dose should, after a day or two, be repeated. In many instances, the disease will fail to give way to these remedies. It will take its own slow time; but when this is allowed, the bile will seem to be re-established in its course, without any reference to the remedies used; and the patient will speedily recover. Whatever nostrum may have happened to be used at this time, usually obtains the cred-

it of the cure ; and hence it is that no disease whatever has been thought to be cured by so many remedies, while in truth it is under the influence of so few.

Jaundice, when it occurs without any mechanical obstruction, as a common epidemic disorder, will commonly yield in a few days to the remedies I have mentioned ; but it frequently lingers in our hands ; our patients become feverish, and the disease seems to be dangerous. Bloodletting is sometimes beneficially used here ; if the pain about the pit of the stomach is troublesome, laudanum may be given, forty drops once or twice in twenty-four hours. Warm bathing is thought to be beneficial ; and the crude and acid contents of the stomach are beneficially removed by the use of carbonate of soda, or prepared chalk.

During the whole course of the treatment, the state of the bowels is still to be regarded ; and, an occasional use of cathartics should not be dispensed with, so long as the discharges retain their pale, ashy color.

The state of the stomach, the absence of fever, and the decline of strength, in these cases, have caused us to look for much benefit from tonic medicines. Every physician who has tried them, will acknowledge that they are but too apt to disappoint us. If tonics are given, the watery infusion of bitter vegetable substances is to be preferred. Camomile tea has been much used in these cases ; but I prefer to take half an ounce of gentian, cut into small pieces, unite with it, a drachm of ginger or cloves, pour on a quart of boiling water, and give a wine glassful of this infusion four or five times a day. An infusion of the bark of the wild cherry tree made in the same way, has been much used in this country, and I believe is entitled to as much confidence as any remedy of the kind.

---

## DISEASES OF THE SPLEEN.

This organ is very subject to be thrown into a state of chronic inflammation from the influence of malaria, or the diseases which arise from that cause. With this exception, the spleen is probably the least subject to disease of all the organs in the body. I think, I can safely say, that I have never found any serious disorder in this organ, but what has been fairly attributable to this cause. But a perfect immunity from other diseases cannot be asserted to exist in this organ. We accordingly



find that in a few rare cases, it has been found, on post mortem examinations, in a state of disease. It has been remarked, that these disorders have been but little studied ; and, so far as its diseases are concerned, my remarks will be very much restricted to those which have been brought on by the autumnal diseases of this climate.

Although the diseases of the spleen are, as I have stated, almost exclusively attributable to the same cause, they are nevertheless exceedingly common in the unhealthy districts of low latitudes. Certain districts of India, Italy, Holland, and South America, have been thought to furnish the greatest number of these cases. The Southern Atlantic coast of the United States, and the Gulf of Mexico, with a large district of interior country in which intermittent and bilious fevers prevail, will, I apprehend, present its full proportion of cases of the disorders of this organ. It may be proper to state that persons of color are much less subject to chronic diseases of the spleen than white persons.

Great uncertainty still hangs over the question, what are the uses of the spleen ? It appears manifest that its functions have no resemblance to those of the liver and kidneys. The opinion which seems to have the most advocates, is, that from its capacity of great distension, it serves the purpose, when the blood is thrown into violent circulation, of protecting other organs from injury, by receiving into its substance, in a temporary way, a great amount of blood which would endanger those organs. But this distension of the spleen seems to produce no ill effect, except when caused by the paroxysms of intermittent, and other malarious fevers.

#### INFLAMMATION OF THE SPLEEN.

The acute inflammation of this organ is by no means a common disease. I have met with it, however, in persons who had been laboring under the chronic inflammation or distension of the spleen, and were, in that condition, exposed to some additional cause of inflammation. I have, in these cases, found the disease very acute in its symptoms ; the fever very high, and the pain and swelling of the spleen extreme. The rapidity of its enlargement, is truly astonishing. I have seen it in a few hours, seem to be so enlarged as to fill almost the whole cavity of the abdomen. I do not know that I have ever witnessed a rupture, or hemorrhage from this organ ; all the patients I have treated in this painful disorder have recovered, and having re-

covered, I infer that no rupture of its investing membrane took place. It is hardly necessary to say more, as to the symptoms of acute inflammation of the spleen. Its situation in the body, should be known to every one ; its violent and sudden enlargement will be obvious, and the pain will be very much confined to the organ itself. These symptoms, with the fever which attends them, will hardly be mistaken for any other disease.

In its treatment, the acute inflammation of the spleen is exceedingly simple ; bloodletting, promptly resorted to, and pretty copiously done, is our main reliance. Cold applications over the region of the abdomen, should be added ; and a moderate pressure by a suitable bandage, will limit the distension in a considerable degree. By this treatment, comparative ease will commonly be obtained in a short time ; but cathartic medicines should be administered without unnecessary delay. If the disease continues, it will put on the symptoms of chronic inflammation, of which we are next to treat.

#### CHRONIC INFLAMMATION OF THE SPLEEN.

I believe the spleen is always enlarged when inflamed. If there are exceptions to it, it has not occurred to me to witness them. When the inflammation is of a kind termed chronic, the organ has no great degree of sensibility. It may be felt with the hand passing out from under the ribs on the left side, admitting of considerable pressure without producing a great deal of pain. There, however, some pain and weight are felt by the patient in the spleen, and some degree of fever attends the enlargement. In such cases, the complexion is sallow, with great debility and emaciation, or wasting of the flesh ; a short dry cough, and sometimes vomiting, and occasional diarrhoea, are present. These symptoms continue for an indefinite time, and although, in many cases, exceedingly mild, are not to be disregarded ; for the disease, although slow in its progress, is not void of danger. Left to pursue its own slow course without interruption, it is hard to anticipate the various disorganizations and injuries, to which it may give rise. Its favorable termination is by resolution, in which case the disease gradually subsides, and is well. In some cases hypertrophy, or enlargement of the organ, happens, and scarcely admits of its again returning to its original size. The suppuration and gangreen described by authors, I have not witnessed.

#### TREATMENT.

In chronic inflammation of the spleen, it is to be borne in

mind, that the part affected has but little sensibility, and great powers of endurance. It is so prone to continue for a great length of time, and so little capable of being relieved by a sudden impression made on the circulation by remedies, that it is to be treated with those which are entirely mild, although it is necessary to continue them, for a length of time. Bloodletting by leeches, is highly spoken of, although I do not prefer it to small quantities of blood drawn from the arm, at different times. Blistering is a remedy of great value in these cases ; it should be repeated from time to time, according to the symptoms. Mercury, used to bring on a salivation, is spoken of with a great deal of doubt. My own opinion is decidedly in its favor. Calomel may be given in doses of five grains every night, till its effect becomes obvious in the mouth. But this remedy admits of only occasional use ; it cannot be repeated so often as the tedious character of this disease might seem to require. As soon as a salivation appears, let the remedy be dispensed with, for a month at least. Iodine, given internally, twenty drops of tincture twice a day, for a week or ten days at a time, will always be found a valuable remedy.

When the inflammation continues with some pain, tenderness, and fever, the antimonial mixture is not to be forgotten. A table spoonful of this mixture, three or four times a day, will be found of much service. If it is found to produce vomiting, the dose may be lessened ; but the remedy should not, on that account, be abandoned.

The great debility and pallid hue of patients with this disease, prompt us to seek for restoratives and tonic remedies, at the earliest possible time. I think they are commonly resorted to, too early ; and I give it as my opinion, that they should not be given during the presence of fever ; but when from the absence of fever we feel authorised to administer tonics, the preparations of iron are unquestionably the best. The carbonate, or the precipitated carbonate of iron, may be made into pills of four grains each, and three a day given to the patient. If costiveness proves an inconvenience, about two grains of aloes may be added to each pill. The sulphate of iron, or common copperas, has been much, and beneficially used in this country. The dose is about three grains, to be given three or four times a day ; it may be conveniently made into pills by placing it near the fire, in an iron vessel, till it falls down into a white powder, and then making it into pills with turpentine. The acetate of iron, made in a rude way, by pouring vinegar on the carbonate of iron, or on nails or iron filings, is objec-

tionable only because of the offensiveness of its taste. Half a table spoonful, or a table spoonful, if the stomach will bear it without vomiting, may be taken before breakfast, and before dinner. I have seen this preparation of iron used, with as much benefit as any other.

I have advised the internal use of iodine; and I have seen the best effects from the application of this remedy externally; let forty grains of iodine be dissolved in an ounce of alcohol, and apply this over the region of the spleen by means of a feather; the application should not be continued over one or two minutes at a time, for if it is, it will produce blistering, with considerable unnecessary pain. It should be used just to the extent that it can be, to avoid blistering; and may be repeated twice or three times a week.

I have stated that this disorder commonly arises from fevers of the intermittent kind; in some cases the patient will have an occasional sharp paroxysm of chill and fever, and, in other instances, a very low and scarcely visible disorder of the same kind. Every attack of this kind tends to aggravate and protract the disorder, and the greatest care should be taken, to remove the intermittent fever, however obscure or low its symptoms. It is pleasing to know that we have a remedy, as peculiarly adapted to the removal of these low fevers, as the fever itself is to the production of inflammation of the spleen. This remedy is sulphate of quinine. If the paroxysms of the fever are manifest, the time at which they are expected should be anticipated by the use of this remedy. Divide fifteen grains of quinine into eight doses, begin six hours before the expected chill, and give one dose hourly, till the whole are taken. This course is to be repeated, from time to time, as the occasion for it may occur; and it is to be remembered, that no active, depleting remedies should be used, within a week after the quinine has been used, as here directed. For, I can hardly be mistaken in the fact, that any remedy used to produce a sudden reduction of strength at such a period, will endanger the re-appearance of the chill.

I have noticed in a late publication, the recommendation of quinine, as the sole and exclusive remedy for chronic inflammation of the spleen. I have no doubt, that in cases connected with an obscure and half cured intermittent, the success of this treatment will be marked and satisfactory. But I am not prepared to believe, that after the disease becomes chronic, and the intermittent fever entirely gone, it will be safe to rely entirely on quinine. The course I have recommended, I have



adopted and pursued successfully, in a great many instances. It will almost always succeed, where the patient is removed from those causes which produce intermittent fever ; but to those who are from circumstances unable to choose a residence for themselves, and are thus compelled to remain where they experience an attack of intermittent fever every year, it is obvious, we dare not promise so favorable a result.

---

## DISEASES OF THE KIDNEYS.

Every one should know, that from the kidneys flows the urine ; and, that this urine, although so much in its common appearance resembling water, is excrementitious matter, fully as offensive as any which is discharged from the body. It is the office of the kidneys to separate this matter from the blood, and the arrangements of nature to accomplish this object are very ample. The arteries which carry blood to the kidneys are so large, that it is obvious the whole of the circulating blood passes through them, many times every day. And the quantity of excrementitious matter which is thrown off from these organs, in some states of disease, is truly astonishing.

Few subjects have been more investigated than diseases of the kidneys, or diseases which change the character, appearance, and properties of the urine. There is still, however, a great degree of obscurity hanging over this subject. Changes in the state of the urine do not always signify a disease in the kidney ; on the contrary, the kidney often performs but a healthful office, in separating from the blood the matter of red gravel, or even the more dangerous kinds of calculi, which so often give rise to the most painful and dangerous disorders. Of late, chemistry has made great advances in the investigation of this subject ; a few decided improvements have thus been made in the treatment of renal diseases ; and with the lights which have thus been afforded us, we shall be better able to point out the proper method of treatment, in diseases of the kidneys.

### INFLAMMATION OF THE KIDNEYS—NEPHRITIS.

The kidney, like the other organs of the body, is subject to inflammation, which may arise from injuries to the part, or from cold, or other remote causes of inflammation ; but by far

the greatest number of cases of this disease, arise from gravel, which is deposited from the urine in a small irregular cavity at the side of the kidney, which has been termed its pelvis. Into this cavity, the urine is first discharged, and from thence it descends by a small tube, the ureter, several inches in length, to the bladder. Gravel is deposited from the urine in the pelvis of the kidney, where it sometimes acquires considerable size, producing irritation, and the inflammation which we are now considering.

The situation of the kidneys is towards the back, immediately opposite the loins. Inflammation in these organs, produces pain which is felt in this region. Sometimes the pain is on one side only; for one kidney is many times affected, while the other is not. The pain is sometimes very acute, but in others dull and low; it is increased on moving, and the testicle on the same side is frequently drawn up, while a benumbing pain extends down the thigh. When the attack is sudden and violent, the urine is discharged frequently in small quantity; and great nausea, and violent vomiting take place. Fever of the inflammatory kind, sometimes, with frequent chilliness, occurs in the midst of the disease.

The discrimination of this disease from lumbago, or inflammation of the muscles of the back and loins, is not always perfectly easy. The inflammation of the muscular or other tissues of the back near the situation of the kidneys, does not disturb the urinary function more than other diseases. This disease, it will be observed, more commonly affects both sides alike; it may be painful to one in kidney disease to stand on his feet, and stoop to take up anything from the ground; but to one affected with acute inflammation in the other organs we have spoken of, such a motion is still more painful or rather impossible. In lumbago, a patient cannot stand on his feet; or, if he does, he would find it impracticable to bend his body forward to so great an extent as to reach the ground. Both these disorders cause pain and numbness which extend down the thigh; but from the kidneys, the pain descends down the inside of the thighs, while from lumbago, a similar pain is felt on the outside. In certain diseases of the intestinal canal, colic, or local disorders of a more permanent character, there may be still more difficulty in making a proper discrimination. Patient observation, and attention to the remote causes, and particularly to those causes by which the disease has been immediately excited, will commonly enable us to decide this question with sufficient promptness; but the obscurity which is so frequently in

our way, in these cases, should never be forgotten ; and when we have made up our minds, and administered our remedies, we should not forget to continue the investigation of the nature of the disease.

#### TREATMENT.

We are treating of inflammation of the kidney, unconnected with the protracted torment of gravel ; and the remedies which we shall here offer, are very much the same with those proper in other inflammatory disorders.

Bloodletting is our first, and most important remedy. It is advised to use cupping on the loins ; and I have no doubt that this is a first rate remedy. Fomentations, with warm applications made by large poultices, or flannels dipped into hot water, and changed from time to time, afford great relief from pain. Large quantities of warm water thrown up as an injection, operate in a similar way, and should be resorted to when the pain is extreme. Warm bathing, continued till a considerable degree of faintness is brought on, may also be resorted to ; and here it may be remarked, that these warm applications are applied in the most acute inflammation of the kidneys. Experience of the great ease they afford, and the safety which results from them, have sanctioned their use in this way.

Cathartics would suggest themselves as important remedies in these cases. Care should be taken in the selection of those which are used ; those composed of the neutral salts are to be avoided, on account of the readiness with which they are taken up into the circulation, and thus thrown into the kidneys. Castor oil, or a tea of senna, should be preferred.

The great pain which attends this disease, will call for the use of opium, when the circumstances of the case admit of it. It should not be used till other remedies have been applied. Blood should be first drawn, and the bowels moved by cathartic remedies ; if the pain then continues, a decided dose of opium should be given ; sixty drops of laudanum will perhaps answer the purpose, as well as any other form of this remedy. This remedy is to be held in hand, and repeated, from time to time, as the violence of the symptoms may seem to require ; but it should be still borne in mind, that opium is, in these cases, a remedy that is rather to be avoided than sought for.

Diuretics are to be cautiously used in these cases. The kinds most proper, are the mildest and least irritating. A tea spoonful of spirits of nitre may be given from time to time, if

the urine is scant and high colored. Carbonate of soda in doses of eight or ten grains, may be given under the same rule.

GRANULAR DISORGANIZATION OF THE KIDNEY—BRIGHT'S  
DISEASE.

In the performance of their great office as secretory organs, it could not be expected, that the kidneys could always escape organic disease. They are, in common with other organs, the frequent subjects of disease; but till of late, these affections were covered with almost impenetrable obscurity. Doctor Bright, a physician still living, has the credit of first bringing these disorders, in a conspicuous point of view, before the medical world. The subject is not yet cleared of its obscurity; but it would not be right to omit the notice of these disorders in this place.

Examinations after the death of individuals, who have died affected with these derangements of the kidney, have led to some knowledge of the symptoms which denote their presence. The appearances which present themselves are very various. Sometimes the kidney is enlarged to three or four times its size in health; at other times, it is very much reduced in volume, in the one case, it is softened and flabby; in the other, hard and resisting. There are still other appearances worthy of notice. Sometimes the substance of the kidney has the appearance of grains, and has been termed granular; in others, the change seems to approach more to disorganization, and a blood-shot and weakened structure are observed. Now, all these cases have come under the same name; and, so far as I know, the symptoms which characterise them, have not been well ascertained. I think it is not too much to say, that the existence of this state of disease in the kidney, cannot be considered very certain, till it is developed by dissection. But in this, as in a great many other instances, the symptoms which attend it, direct to the use of remedies, that are not only useful, but, in many instances, perfectly successful.

Bright's kidney is a formidable disease. When present, it hinders the proper function of the kidneys, detains in the system matters which should be thrown off, or changes them into such as are dangerous or poisonous.

Fever, the general companion of disease, is commonly the first signal of the disorder of which we are speaking. Great languor, obscure pain in the region of the kidneys, scanty urine, nausea and vomiting, attend it in its mildest forms. In its



more aggravated forms, dropsy follows ; and, in these instances, the dropsy is of the most inflammatory kind. Inflammations of the most important organs frequently supervene. The lungs, the heart, and the peritonæum, are frequently the subjects of these attacks.

There is still a more formidable state of this disease. In this, the kidneys fail entirely to perform their office ; no urine is discharged. The symptoms at first do not appear so formidable ; but a day or two will hardly elapse, before symptoms of the most awful kind will present themselves. These cases are seldom arrested : they are speedily followed by delirium, or apoplexy and death.

The presence of this disease is known, or strongly suspected, from the qualities of the urine. It is found to contain more or less albumen, or that portion of blood which resembles the white of an egg. This substance is sometimes so abundant, that it is only necessary to raise the urine to a boiling heat, when it will be reduced to a whitish substance almost as thick as jelly. When the quantity of albumen is less, it will not be detected by experiments so rude.

When the disease has continued for some time, and put on a chronic form, the impression it makes on the patient becomes striking ; the paleness is peculiar ; it is dingy, sometimes waxy, as it is described. The bowels are usually torpid, sometimes the reverse ; but here we must abandon the record of other apparently inconsistent symptoms which are spoken of in this disease. Till our knowledge of the subject is greater, we must content ourselves with the reasonable certainty which the symptoms already mentioned give us, that there is present a disorganizing disease in the kidneys.

#### TREATMENT.

I have stated that this is an obscure subject, and that the exact state and condition of the kidney, is but imperfectly known from the symptoms which attend its diseases. The remedies for these disorders are fortunately less obscure. The decided inflammatory symptoms and plethora ; the oppression of the mind and other symptoms, point directly to the active depletion which should be adopted.

Bloodletting should be resorted to without delay, and repeated after a day or two, if the symptoms do not give way. Where the kidneys seem to be particularly excited, and the pain in the loins is considerable, cupping or leeches, will be very im-

portant ; but blistering should not be used, because in many instances the drawing of a blister produces a very great excitement or inflammation of the kidney of itself.

Cathartics will form a leading part of the treatment in these cases. Take of jalap two drachms, cream of tartar an ounce, rub together, and make into eight powders. Of these, give one every three hours, till an active cathartic operation is brought on. Where symptoms of dropsy are present, this will be a very important remedy ; but we shall say more in regard to dropsy in another place. A doubt may arise on the use of cathartics composed of salts, or even of the cream of tartar, we have advised. These articles are readily absorbed, pass into the blood, and excite the kidney to a considerable degree ; but the copious watery discharges they produce, both by stool and urine, are, in the highest degree, beneficial ; so much so that any slight excitement they might produce in the kidney at the time, is of little consequence.

---

### GRAVEL IN THE KIDNEY.

The presence of gravel in the kidney is the most common cause of pain and inflammation in that organ. The gravel which gives rise to this pain is formed in the kidney, in a certain small chamber which is called its pelvis. So long as the urine formed in the kidney can pass this gravel without interruption, no symptoms of much consequence will arise from it. But the gravel will, at some time, fall into the ureter, a very small tube through which it cannot pass without causing pain. Where the gravel is large, as large for instance as a pea, the passage will be so effectually choked up, that the urine will pass with the greatest difficulty. Violent pain ensues, with nausea, and commonly vomiting. The pain extends commonly from one side of the loins down the thigh, producing retraction of the testicle with constantly increasing pain. The gravel is sometimes ragged or pointed in its form, and then the pain is exceedingly acute. I have seen such gravel after having passed the ureter to the bladder, and thence been discharged with the urine, exceedingly ragged and rough, having points nearly as sharp as a lancet.

Gravel is subject to be mistaken for mere inflammation of the kidney ; and, in some instances, for colic ; but these mistakes will hardly be made, if a little attention is paid to the rise

and progress of the disorder. Colic has its premonitory signs, the disorder of the stomach and bowels precede the pain; inflammation will seldom arise without some signs precursory to its appearance; but gravel may occur in a moment, and so it does commonly happen, without the slightest previous warning of its approach.

The treatment of an attack of gravel, is but the treatment of an ordinary attack of inflammation. Bloodletting and cathartics should be resorted to promptly; but they can, at most, but moderate the symptoms—the pain will continue till the gravel has passed through the ureter into the bladder, or returned to the pelvis of the kidney, from whence it came. This last, I must think a very rare occurrence. Where the gravel is large, it will be proportionably slow in its passage through the ureter; and when it remains at any given point, for a length of time, the pain may nearly cease; but it will be renewed again, as soon as the gravel moves. Thus, the patient will be tormented with exquisite pain, sometimes for days together; but, at length, the gravel will pass into the urinary bladder, and the patient will experience sudden and total relief. A few hours commonly elapse before its discharge with the urine; but, with a little care and attention, it will be found in the urinal. When discharged, it will be heard to produce a sharp click at the bottom of the vessel.

Patients are not always so fortunate, as to have the gravel which has passed into the bladder find its way through the urethra. When it is retained in the bladder, it may be expected to increase in size, and thus form that formidable disorder, stone. In some cases, after having grown to a considerable size, it finds its way into the urethra, where it passes with great difficulty and pain. In a few instances, it stops in the perinæum, where inflammation and ulceration follow; and, after great pain and suffering, the stone is extracted through the integuments; but, in many more cases, it passes along through the urethra till it is finally discharged. In some cases it is so large, that it will not pass for many days; the urine still passing by it drop by drop, as forced by the powerful contractions of the bladder. While passing in this way, it is easily felt, and might be cut down on, and taken out; but it is very desirable that an injury of this kind, should not be done to the parts, and that the stone should be allowed to make its own exit. I have seen a stone nearly as large as an almond, discharged in this way by a boy of twelve or thirteen years of age—having remained

where it could be plainly felt for nearly a month. No ill consequence has resulted in this case.

The great irritation and pain which attend the passage of gravel from the kidneys, call for treatment to palliate the symptoms. I have suggested the use of the common means to hinder or lessen the inflammation which may attend these cases ; but I have not mentioned the opiates, and diuretics, which form, in protracted cases, a necessary part of our remedies. Opium may be given, from time to time, to combat excruciating pain ; sixty drops of laudanum or three grains of opium form a large dose ; and it may be given in less proportion, when the symptoms are not extreme. Spirits of nitre may be given at the same time, either in combination with laudanum, or by itself. A tea spoonful of the spirits of nitre, may be given, four or five times a day, if necessary. Where the fever is considerable, and the urine highly colored and in small quantity, diluted drinks, gum-water, watermelon seed tea, flax seed tea, or even cold water, may be beneficially taken, in considerable quantities.

Patients who have gone through one attack of gravel, or have by passing small gravel found that they were liable to be affected with this disease, should go into the best investigation they can have made of the nature of the disease with which they are affected, and use all the means which art affords for relieving themselves from so great an evil.

The gravel which is most commonly met with is of two kinds, that which is most common and least dangerous, has been termed red gravel ; it commonly forms in the urine after it has been discharged, when it crystalizes in the bottom of the vessel, in small reddish colored grains like sand. These crystals are of lithic acid, and remain dissolved while the urine is warm and in the body ; but, like many salts held in solution by a warm fluid, crystalize when the fluid becomes cool. It is surprising to see the quantity of this gravel which is sometimes found in the urine of a single person. Some have been known to discharge it in such quantity, that it was thought to be an easy matter to have obtained even a peck of such sand. Now this gravel is of itself attended with but little danger ; for it seldom forms in the bladder or kidney, and rarely produces a painful attack of gravel or stone.

The gravel which results most frequently in the formation of stone in the bladder, differs very much from that which I have been describing. It forms in the bladder, or in the kidney, and seems after it has found some nucleus or small point



to begin on, to be deposited in layers, increasing the size of this body from time to time. The variety of these concretions is very great ; and it would be useless to undertake to consider them here. It may be observed, however, that the white gravel is dependent on phosphorus for its peculiarities, and is abundantly more dangerous than the red gravel I have described ; but the stone which has acquired considerable size, is sometimes found composed of layers first of white, and then of red gravel, sometimes grown or enlarged to weigh several ounces. In the treatment, it is fortunate that both cases are attended with acid urine, and are benefited by the same remedies.

Alkalies combine readily with most acids, and form soluble neutral salts. Chemistry would therefore naturally look to these bodies as a remedy for gravel. For the common red gravel, soda is a good remedy ; from five to twenty grains at a dose, may be given in water three times a day. It should not be given so largely as to make the urine itself alkaline ; but this is not always a point very easily decided, and the doses I have advised may be lessened or increased, according to the idea entertained of more or less acid in the urine.

Potash, although less convenient, and less agreeable to the taste, has some advantage over soda, in the treatment of some cases of this disease. Soda, it is stated, sometimes unites with the urine in cases of white gravel, and forms of itself an insoluble salt, which may form a dangerous deposit from the urine. From potash we are not exposed to this danger. For, so far as the laborious investigations which have been made of this subject inform us, potash never becomes a part of an insoluble compound in the urine. It is, therefore, the safest remedy in gravel. It may be given in doses of from five to ten grains, two or three times a day, for a great length of time. It should be kept in solution. Take half an ounce of carbonate of potash, or *saleratus* dissolved in four ounces of water, and take a tea spoonful in water, two or three times a day before meals.

It may be well to mention, that a stone or calculus frequently met with and differing from those I have mentioned, has for its base the oxalic acid ; it has been denominated the mulberry calculus, and has, when extracted, a considerable resemblance to several black mulberries bound together. In its treatment, it does not materially differ from other cases ; but when the urine is found to contain this acid, articles containing it should be studiously avoided. Rhubarb, which forms a favorite pie, owes its peculiar flavor to oxalic acid ; it is, therefore, not to be used by these patients as an article of food.

It is said that prevention is better than cure ; and this would seem to apply with full force to calculus disorders of the urinary organs. Red gravel is the child of intemperance and excess ; it is the scourge of ale drinking, beer drinking, and wine drinking ; it is the scourge also of excesses in eating ; and, in all cases, the habits of the patients in regard to these things, should be brought under proper restraint. But there are many cases in which persons who are by no means addicted to excesses of any kind, have attacks of this disorder.

Phosphatic, or white gravel, and all those on which the presence of stone depends, occur with more obscure remote causes. These cases are frequently met with in children, who have stone, even before they are seven years old. In these cases no charge of intemperance in drinking can justly be made ; nor do I know that intemperance in eating has been charged on these little sufferers. Nor is the disorder confined to childhood ; persons of all ages, sexes, and conditions, are liable to it. It is much more frequent in some countries than in others, without regard, it would seem, to the habits of the people. In the United States, I think it more common in districts where the people use hard water, or water containing in solution a portion of lime.

Debility has been mentioned as the sole circumstance or cause of that state of health, which exposes persons to the deposit of these calculi. It is hardly necessary to say, that this is a very vague and uncertain reason to assign for a thing so peculiar. It is useful only as a direction for us, in patients who have shown symptoms of gravel. These we may well consider as being affected with a dangerous debility. They should be treated with tonics—muriate of iron, sulphuric acid, tincture of gentian, or other strengthening remedies. Nor should a rich and generous food be denied them ; for although excesses in eating and drinking may have caused debility, strength is not to be obtained by living too poor.

---

## DIABETES—EXCESSIVE DISCHARGE OF URINE.

Every one is apprised, that the quantity of urine discharged in a given time, varies under different circumstances ; and that it may be very much increased or diminished, without any apparent loss of health. Individuals differ very much from each

other in this respect, some will discharge a great deal more than others. The quantity discharged, does not always depend on the amount of fluid taken into the body ; but this circumstance must have more or less control of the amount discharged by way of urine. Some persons, in apparently good health, contract the habit of drinking enormous quantities of water ; and these, without apparent disease, discharge equally enormous quantities of urine. Where fermented liquors are used as a beverage, especially strong beer and porter, the amount drunk is sometimes enormous ; rising, it is said, in some instances, to three gallons a day, or upwards. Yet such persons pass for healthful. Remedies will hardly be thought necessary for a mere increase in the quantity of urine discharged, when this is brought about by the obvious causes I have mentioned ; yet physicians are not unfrequently consulted by those who are frequently disturbed at night, by the necessity of having to rise from the bed to pass urine. Considering themselves diseased, and overlooking its obvious cause, the excessive amounts of the drink they take, such persons apply to physicians for a remedy. The only remedy requisite, is to abstain from the causes of this disturbance. Such persons should reduce the quantity of fluids they take, to the ordinary standard of healthy persons, and the symptoms of excessive urination will disappear. If the disorder has continued for a considerable length of time, and especially if the person is old, which is very apt to be the case, the use of tonic medicines will be beneficial. Warm clothing to protect the skin from cold, and sometimes an anodyne at night, are all the remedies which it appears necessary to suggest.

#### DIABETES MELLITUS.

This disorder, although not very uncommon, has not acquired, so far as I know, a popular or common name. It consists in the discharge of enormous quantities of sweetish urine. It is a formidable disease, and evinces a total derangement of the health of the patient, or of the function of the kidneys.

The disease is exceedingly insidious in its attack. The perspiration of the body is very much lessened or suppressed—the appetite becomes enormous, and the urine exceedingly copious, being discharged frequently by day and by night. The thirst is considerable, more or less fever commonly present, the powers of the system give way, with loss of strength, loss of virility, marasmus, and complete exhaustion.

The urine is variable in its color, commonly pale, sometimes straw color, and sometimes greenish, with a smell less like urine than anything else ; it has been compared to the smell of hay. The composition of the urine varies also. Sometimes it contains chyle, and sometimes sugar ; but, in either event, the quantity of solid matter abstracted from the system daily in the urine, is enormous. By simply evaporating the urine which has been discharged in a single day, from a pound, to a pound and a quarter of solid matter, has been found. A waste so considerable may readily account for the loss of flesh, so commonly experienced in this disease.

The enormous quantity of fluid discharged in this disease, and the great amount of solid matter contained in it, have led to a great deal of investigation of its nature. It has been found, that in many instances, the fluid and solid matter thus discharged, exceed the whole amount of solids and fluids taken in ; and this excess has been found to continue for a considerable length of time. The patients, however, are under these circumstances constantly growing worse.

Great disorder of other functions is found to exist, during the continuance of this disease. The bowels are constantly costive ; the fæces discharged are without fetor, and resemble that of a goat, more than that of a man. The disease progresses slowly, frequently seems to induce consumption, jaundice, or typhus fever, and, in some instances, ends in dropsy.

#### TREATMENT.

Diabetes resembles so closely a common dyspepsia, that many physicians have considered it but a variety of that disease. In its onset, it is usually quite inflammatory, and should be treated by bloodletting and active cathartics ; but these remedies cannot be persisted in, for a great length of time. Opium has been recommended ; and certainly, to allay the irritation produced in the kidneys by this disease, and to restore the secretions from the skin, no remedy would seem to promise more.

I have met but a single case of diabetes in my practice ; and this was cured by a rigid observance of a low regimen, and the daily use of antimonial mixture, made by putting two grains of tartar emetic, and a drachm of nitre into half a pint of water. Half an ounce, or a large table spoonful of this mixture was taken from four to six times a day. No other reme-



dy was used in this case. The thirst speedily abated, the appetite became easily controlled—the patient was young, and recovered in a few weeks. Yet I am far from thinking that this course will cure every case, although I think the prescription very much to be relied on.

A rigid regimen has been properly regarded as the foundation of a proper treatment in diabetes. Articles containing starch or sugar, should be but sparingly used ; for, although these articles are easily digested, they furnish abundance of that saceharine matter, which the kidney, in this disease, seems so prone to extract from the blood. Animal food has therefore been reeommended, to the exclusion of almost every other. In this, as in other cases, where chemistry seems to point out the remedies used in medicine, the maxim should be adopted with great allowance ; for the powers of life have a control of this subject, which as yet, has not been fully explained. I should not forbid my patient a morsel of bread, and in spite of all an erring chemical system of prescriptions may signify to the contrary, I should make up the daily fare of my patient out of the common articles of food ; I should allow him, meat, bread, rice, milk, and even sugar ; but all these in quantities exceedingly light, for although emaciation and wasting, even to the point of death be present, there can be no good in urging on the patient more food than can, by his powers, be perfectly digested and assimilated. The quantity of food allowed in these cases, should be small ; one fourth, or even less than one fourth, of what the same person might take if in health.

There is a form of diabetes which I have never witnessed, in which it is said the urine coagulates, forming a milky or clabber-like jelly. After standing a length of time, a matter resembling cream will be found at the bottom. I have found nothing in my practice resembling this, execept that, in teething children, I have frequently seen a cream-like deposite strictly resembling that which I have seen described as belonging to this disease.

The treatment of this form of diabetes, is said to be not very well defined ; but it is less dangerous than other forms of this disease. The cases I have met with in children, have not proved particularly dangerous ; and, with the ordinary treatment of the dyspepsia usually attending it, such cases have terminated favorably. If I should meet a case of this kind in a grown person, I should treat it as a general dyspepsia ; taking special care to place the patient under a very low regimen.

---

DROPSY.

Dropsy produces the effusion of a watery fluid into the cellular membrane, or into the natural cavities of the body. There are, besides these cases, some which are termed encysted, from being local in their character, commonly unattended with general disease, and affecting very small portions of the body. The scrotum, or sack containing the testicles in men, and the ovary in females, are the most frequent seats of this variety of dropsy. Dropsy of the brain is also a local disease, being scarcely ever attended with symptoms of general dropsy. The dropsies which occur in other cavities, such as the abdomen, or lungs, or the pericardium, which surrounds the heart, are more frequently attended with a general dropsical diathesis, and commence with, or terminate in a general dropsy.

Much has been written on the subject of dropsy; but very vague notions were entertained of its causes, till very lately. The discovery of the lymphatic vessels, with their important function of absorbing and returning to the circulation the fluid parts of the blood, soon called the attention of medical writers to their probable connexion with dropsical effusions. Doctor Darwin, reasoning from the few facts that were then known, placed dropsy on a beautiful system of cause and effect. He saw in these cases, only diseased lymphatic vessels, and their failure to perform their office of absorption. Later writers have demonstrated that the excess of exhalation, or throwing off, of fluids from the blood, may also be a cause of this disease; and it may be considered as an established fact, that from one or both of these causes, the disease we are considering does commonly arise. Through life there is a constant process of exhalation of the fluid parts of the blood, on the skin, and throughout the whole internal structure of the body. This exhalation is balanced by the absorption of so much of this fluid, as ought to be returned to the blood, not only by the veins, but by a peculiar set of vessels formed for that purpose. In dropsy, the healthful relation between these two processes is broken; and the fluid which is no longer taken up and properly disposed of, is permitted to accumulate, to oppress and to destroy the organs in which it occurs, or the life of the individual who is thus affected.

The fluid which is thus thrown out in dropsy, is by no means uniform in its appearance. It is composed principally of the

serous, or watery portion of the blood ; but in some instances, especially in the dropsy of cavities, such as the abdomen, it sometimes contains albumen in sufficient quantity to give it the appearance of jelly.

Dropsy is sometimes a primary disease, and pervades the whole system. The flesh becomes suffused with water, which descends through the meshes of the adipose or fatty membrane to the most dependent parts. The feet are first noticed to be swollen, in these cases ; and, as the disorder increases, the swelling ascends to the body. No particular organ seems to suffer more in these cases, than another ; and even when death has occurred, the organic lesions so commonly met with in this disease, are wholly wanting. But by far the greater number of dropsies, arise from diseases of particular organs. Enlargements or diseases of the liver, produce not only a dropsy of the abdomen, but result in general dropsies ; affections of the lungs often terminate in the same way ; and it may be considered as a general truth, that whenever, from the enlargement or swelling of any organ, pressure is made on the veins in their course to the heart, dropsy may occur from that cause alone.

The character of the disease, or fever which attends dropsy, is a matter of prime consideration in its treatment. The first idea that would strike any one on looking at a patient in this disease, would be, that there was present a great and alarming state of debility. For this debility, we should naturally look into the class of stimulants and tonics for a remedy ; and such has been the treatment of this disease in thousands of instances. But reason and experience have taught us that dropsy, although attended with great weakness, is a disease of a high inflammatory character, and is to be successfully treated by remedies, active and depleting, in a high degree. It is true, there are exceptions to this rule, but they are rare, and not to be trusted, except where the general prostration of the system is too obvious to admit of any question. This state of things seldom occurs till the patient has been reduced by the most active treatment.

#### ANASARCA—GENERAL DROPSY.

This is a general disease, affecting the system in such a manner, as to cause the throwing out of the serous portion of the blood, and its accumulation in the adipose, or fat containing tissues of the body. When it is unattended with any local disease, it is still in a high degree inflammatory ; the pulse will be found

hard, but rather slow, a great degree of lassitude and heaviness will be experienced, but the appetite is rather increased than impaired. It sometimes occurs to persons who were previously in high health; but this is not so common. It usually attacks the weak and the invalid, and is known to exist by the swelling, especially of the feet, which forms its first and undisputed symptom. This swelling is easily distinguished from every other. By pressing on it gradually with the finger, the water of the part is removed, and a depression, or pit is left, which will gradually disappear when the pressure is removed. The skin is dry, and although, at sometime of the day, there is heat and burning of the hands and feet, the extremities, when examined, commonly feel cool, if not cold. The urine is, at the same time, scanty and red, sometimes tinged with bile.

General dropsy frequently arises from causes which seem to operate locally, especially such as operate on the lungs. Scarlet fever is not an uncommon cause of a dropsy of this description. This so frequently occurs, that it is looked for as a common occurrence, in persons who seem to have recovered from that disease. Measles also seem to produce the disease in the same way, and very much of the same character; but these cases are rare. Other fevers also terminate in the same way. I have seen many cases succeed bilious fever, especially when that disease was protracted in the form of an intermittent.

Diseases of the skin also sometimes produce general dropsy. Nettle rash, a very common disorder, sometimes results in this way; but it is principally from those forms of disease producing pustules on the skin, that dropsy is to be apprehended. Some of these diseases which are chronic, and exceedingly troublesome; when repelled by powerful astringent remedies, have resulted in dangerous attacks of general dropsy.

Suppressed discharges have also a tendency to produce dropsy. The habitual discharge of blood from piles, excessive menstruation, or other similar discharges of blood which have continued for a considerable time, are not suddenly arrested without the danger of a supervening dropsy. In like manner, diarrhoea, when it has been obstinate, and continued for a length of time, produces a dangerous tendency to a general dropsy.

#### REMEDIES.

The most powerful cathartic medicines have been found of most use in discharging from the system the water of dropsy. I advise in preference to any other, jalap and cream of tartar.



Take of jalap a drachm, cream of tartar an ounce, divide into four powders, give one in water, every three hours, till a powerful cathartic operation is brought on. Used in this way, it will be seldom necessary to give anything to check its operation. The patient will be found to rise from every discharge, with the sense of improved strength. But, should the remedy be used at a late period in the disease, or, from some particular reason, the patient prove unable to bear its action, and grow faint, its further operation may be checked by twenty drops of laudanum, repeated if necessary. This cathartic which I consider by far the most important in the treatment of general dropsy, when the disease is not attended with particular local disorder, may be repeated every second or third day, till the swelling subsides.

Other cathartic medicines may be used, when, from debility or other reasons, the cream of tartar and jalap are thought to be too active. Senna and salts are perhaps the best of these. But in general such remedies as produce copious watery discharges from the bowels, are proper in these cases. I have not advised elaterium, not that I doubt its great powers, but that its activity is so great that it is barely proper to leave it out of the class of poisons. I have never used it, but do not doubt the great benefits that have been derived from it, in untractable cases of dropsy.

Bloodletting is by no means to be neglected in this disease; if the pulse is full and hard, the tongue white and coated, and considerable symptoms of fever present. Blood should be drawn from the arm, although the pallid look, and the debility of the patient might seem to forbid it. In a disease like dropsy, which requires the use of such active depleting remedies, it would be wrong to suppose the patient cannot bear the abstraction of blood. The remark of Doctor Rush, that bloodletting is safe where cathartics, from their depleting effects, are dangerous, I have verified in dropsy. I have, in some cases, found the abstraction of blood less exhausting, while at the same time it proved itself a more efficient remedy for the removal of the disease, than cathartics.

By these remedies, we shall almost always be enabled to reduce the swelling attendant on dropsy. The great question now arises, how is its return to be hindered. Diuretics of various kinds have been used from the earliest times. Squills and digitalis are most frequently used, at the present time. Squills should be used in combination with calomel. Take ten grains of calomel, and sixty grains of squills, make them into twenty-

four pills. Of these, three a day may be given, and be continued, according to the necessity of the case. This course is to be adopted before the dropsical swelling has entirely disappeared, and continued as long as any of the swelling remains. If the case proves obstinate, and the pills are continued for a week or two, a salivation will probably come on; and this is often found the signal for the disappearance of all the dropsical symptoms. In dropsies, salivation is apt to prove exceedingly painful, and is very much objected to by patients; but if the remedy does not remove the disease before a salivation is induced by it, there should be no hesitation in pressing it still farther. In addition to the pills recommended, a dose of ten grains of calomel should be given, and be repeated once in three or four days, if necessary. For no patient should consider himself as having tested the benefits of calomel, till some degree of salivation has made its appearance.

In spite of these means, dropsy will frequently prove obstinate, and return in the face of all our efforts; and we are thrown on the necessity of using remedies which may be borne for a greater length of time, without exhausting and utterly destroying our patients. The antimonial mixture, so often recommended, to reduce inflammatory action and restore the secretions, finds its place here. I advise a greater proportion of nitre, combined with tartar emetic. Take half an ounce of nitre (salt petre,) and two grains of tartar emetic; dissolve in half a pint of water, and give a table spoonful, once in four hours. If it proves emetic, lessen the dose; but continue it in such quantity as the stomach will bear, for many days together, if the symptoms still seem to demand it. If it produces a moist skin, lessened thirst, and manifest increase of urine, faith in its benefits should be firm.

The alkalies have been much recommended as diuretics, in this disease. Carbonate of soda is the most convenient of these, and may be given in doses of fifteen grains, repeated three or four times a day, especially after meals. Carbonate of potash may be given in the same dose under the same regulations. Calcined magnesia, being a mild cathartic, may be substituted, when some degree of cathartic effect is desirable. It is beneficially combined with rhubarb. Take a drachm each, of the rhubarb and calcined magnesia, rub them together, and divide into four powders; one may be given after eating, and repeated, if it does not move the bowels in four or five hours.

Dropsy is often complicated with other disorders, and some-

times with diarrhoea, which would appear least of all to be expected. The cathartic course we have recommended would seem to be wholly inapplicable in these cases; and it may be considered prudent to forbear the use of them. Bloodletting has been found peculiarly applicable to these cases. The diarrhoea has given way, and without much reliance on cathartic medicines; the diuretics, calomel and squills and nitre, have brought such cases to a favorable termination.

I have omitted to state the particular objects of digitalis, and the manner of using it; I have not found it as efficient as its reputation had led me to expect. Should the remedies I have advised not prove effectual, this powerful remedy should not be neglected. Give twenty drops of the tincture of digitalis every three hours, till from the nausea it produces, it is thought prudent to suspend it. It is said in these cases to reduce the pulse and promote discharges by urine, in a remarkable degree; and such effects I have seen arise from it. If it is taken up as a remedy, it should be diligently attended to—given until its effects are obvious and sufficient, and then suspended; to be returned to again after a few days, if necessary. If, after the use of such remedies as I have described, patients become exhausted, and the swelling returns again and again, sudorifics, or sweating remedies, may be used with the happiest effects. After having caused a discharge of the water, and the reduction of the patient to the appearance almost of a skeleton, and having proved by repeated trials, that the active remedies used could not be suspended without a return of the swelling, I have given Dover's powder, fifteen grains, sometimes even a larger dose, twice in twenty-four hours, with the happiest results. I have found this remedy to produce a copious discharge from the skin, by which the return of the swelling was entirely arrested, while by diet a little improved, the patient would acquire strength, so that the remedy could be dispensed with in a few days. I have thus performed some of the most remarkable and perfect cures of dropsy, which it has ever occurred to me to witness.

When the swelling of the limbs refuses to yield to other remedies, it has been advised to puncture them, and let the serum thus flow from the body. It is only in extreme cases that this course can be justified; but it is a remedy plainly pointed to by nature, for the skin often bursts of itself, and the whole of the serum which had accumulated is speedily discharged. Nor is this rude operation of nature always attended with a fatal result; the patient will sometimes recover, even in cases

which appear the most unpromising. I attended a few years ago, a lady of more than seventy years of age, who, in a state of general dropsy, which had distended the limbs to the point of bursting, experienced this fracture of the skin of both legs ; the water of dropsy flowed from them for months ; and, by the powers of nature almost unaided by remedies, (for despair had brought her to a point to refuse or disregard them) she gradually arose to a good degree of health, which she still enjoys.

It is by no means desirable to puncture the limbs for the discharge of dropsical effusions. Such punctures are sometimes followed by mortification, and a speedy dissolution. If they are made, they should not be made too near the extremities, but in a dependant point, somewhere near the calf of the leg. A puncture of some depth, made by a needle, should first be tried. If the water flows, drop by drop, it is sufficient ; if it stops, the operation may be repeated, or a very narrow opening made by a lancet. No dressings need be applied.

Bandages applied to the limbs, have been recommended as a means of averting the necessity of their being punctured, or the danger of spontaneously bursting. I have used them with some advantage ; but it is to be remembered, that they are at best a mere palliative of a single inconvenience, and not to be relied on as a general remedy.

Dropsy, which is too frequently brought on by excess in eating and drinking, is not to be cured without abstinence, adhered to with the greatest diligence and perseverance. I never knew a worse case of dropsy than one in which the state of the stomach rendered it almost impossible to give any active medicine ; for every thing of the kind was thrown up, as soon as it was swallowed ; yet a perfect cure of this case, was effected by abstinence alone. A single cup of tea, with half a biscuit, which could not have weighed two ounces, was taken evening and morning ; and neither food nor drink of any kind beside this, was taken for three months. The patient was a lady, forty years old, or upwards ; she kept her bed during this slow cure, without rising from it, except for a moment at a time ; and thus, as it were, vegetated into perfect health. Her flesh and complexion resembled those of a babe of six months old, more than any thing else. It is not necessary to say much on the regimen proper in dropsy ; it is to be low and scant, to the last degree ; it is to be as restricted in drinks, as it is in solids ; although, in the first stage of inflammatory cases, there may be for a time, some exception made in favor of



drinks. It is impossible to assign rules which shall be without exception, in these cases. I would say that both food and drink should be reduced to the one fourth part of what would be necessary in health ; and that the articles should be those least stimulating. I am apprised that this restriction in drink is no longer a maxim in the treatment of dropsy ; but I have found the patient's thirst a very erroneous criterion for the use of fluids. Drinks are not to be forbidden while the fever is high ; but as soon as the symptoms of inflammation abate, a morbid appetite for water is to be controled with the same care, that a morbid appetite for food would require. I will add, that I have often seen a violent thirst follow the copious discharge of fluids by cathartics ; and the indulgence in drinking copiously, followed by a sudden increase of dropsical swellings. In these cases I have seen abstinence from drink of great service ; the thirst giving way of itself in a short time.

Almost every disease, runs at last down to a point of debility, from which our patients require the use of tonics and nutritious food, to raise them. This point arises also in dropsy ; but it is impossible to give any rule by which its presence may be absolutely known. The preparations of iron have been most used in these cases. They are most needed when from the long continuance of the disease, and the great change which has happened in the character of the blood, the peculiar action of this remedy becomes necessary. It is not always safe to wait until the dropsical swellings have entirely disappeared. The remedies may be tried, and the judgement formed of their benefits by a little observation. The common carbonate of iron or red precipitated carbonate, are, as I think, the more convenient remedies. They should be given in decided doses, ten to fifteen grains in powder mixed in a little syrup, may be taken twice a day. The muriated tincture of iron is also a good remedy, and may be taken in water, ten or fifteen drops, two or three times a day. At the same time a more generous diet is to be allowed. The patient will commonly take readily enough any food which is allowed him ; and the quantity, when the tonic remedies we have described are required, may be increased ; perhaps doubled beneficially. It is unnecessary to go into further details of the means of restoring patients from the great prostration, which commonly results from dropsy. There is nothing peculiar in these cases, and a single caution only is necessary, and that is, not to return too soon to the use of nutritious food, and tonic medicines.

A few more words, and we shall have done with the subject of general dropsy. It is obvious from the circumstances under which dropsical effusions occur, that it will be commonly present at the fatal termination of several organic diseases. But we are not therefore to despair in every lingering case of dropsy; for the local disorders on which some of these cases depend, may give way; and when the disease has arisen without any connexion with local disorder, it terminates favorably in many cases in which there would have appeared to be scarcely a ray of hope. These successful terminations in desperate cases often happen under the use of remedies of a very low degree of medical activity. The circumstances under which such escapes from imminent danger have occurred, have been so striking, that I have been bound to acknowledge the favorable influence of remedies which appear to promise the least. I witnessed a case of recovery, from the use of black oxide of iron, after the most active treatment from more powerful remedies had been used in vain. A lady, apparently in her last week of existence from general dropsy, was advised by one of the lowest pretenders in medicine, to use iron scales. He procured the remedy by heating to redness, in a lightwood fire, an old frying pan. Allowing it to cool down from the red heat it had been exposed to, the scales which were formed on its surface were taken and reduced to powder. A tea spoonful of this powder was administered in syrup, at a dose; violent vomiting followed the first administration. A second portion, given a few hours after, proved an active cathartic, producing copious watery discharges, with immediate and great relief. These doses were repeated from time to time, with similar results, and by continuing the remedy, for about two months, the patient recovered to a state of perfect health. Now I do not recommend this remedy with the confidence which this case might seem to inspire, for I have tried it again and again, in other cases which appeared to me similar, without experiencing from it such remarkable results. But the influence of this case on my mind has not been lost. I do not fail to change my remedies, when cases of dropsy prove obstinate. I have found many cases yield to inferior remedies, after having resisted those more powerful. And it may be properly set down as a rule of practice in dropsy, that remedies are to be changed for others, when they are not obviously beneficial; and I would add, that in cases which are to all appearance desperate, it is wrong to give up in despair, and cease to use remedies.

Since writing the above, I have fallen on the remark of Dr. Darwell, that in the present state of medical science, it is becoming an axiom "to allow dropsical patients as much fluid as they wish to drink."

It is not every alteration which is an improvement, in either art or science, and this disregard to all restriction of fluid to dropsical patients, I think exceedingly pernicious. A ravenous and indiscriminate appetite for food and drink, is a common attendant on dropsy; and I have found both thirst and appetite greatly increased after the brisk and efficient operation of a *water discharging cathartic*. The thirst, especially, comes on immediately after copious discharges, either by stool or urine. This thirst is temporary; and if the patient will forbear to drink, he will cease to desire it after a few hours. This fact is often important to be observed. Thirst depends on the absence of fluid in the stomach; and this absence is supplied by the natural secretions of the parts, when time is allowed for it. Every one may test this by forbearing to drink after a hearty meal; he will find that the thirst will be temporary. But whether I have given the proper reason for this fact, is a matter of little consequence. I rest the rule I offer on experience and observation. The appetite for water is no more to be trusted in dropsy than the appetite for food. It is not so frequently ravenous and insatiable; but, in some cases, it is extreme, when a very small quantity of fluid is proper.

---

## DISEASES OF THE NERVOUS SYSTEM—NEUROSES.

The brain is the organ of thought; the nerves are the organs of sensation; and the muscles are the organs of motion. The diseases which have been called nervous, affect those organs, without producing any disorganization which can be detected by the anatomist. They are acknowledged to be, the least understood of all the disorders affecting the body.

The obscurity which rests on these subjects, depends in part on our inability to perceive in the structure of the parts, or the substances composing them, any fitness for the production of their effects. We see nothing in the form or structure of the brain, which will inform us that it is the centre of all our sensations; we see nothing in the nerves from which we can infer that they are the organs through which the cause, of our sensations and voluntary motions are transmitted; and we see

as little in the muscles, which shall inform us of the astonishing manner in which they are brought into use by the will. All these powers and capacities of these organs we learn from experience and observation; and after all the thought, and observation which the subject has drawn forth, we are as ignorant of the mysterious connexion of mind and matter, as on the day the investigation began.

Another source of difficulty in the investigation of this subject, arises from the complication of nervous diseases, with those of a different character. Tetanus, which in some instances arises spontaneously, and destroys life without leaving a trace of local injury; is in others, brought on by wounds or great injuries inflicted on the body. Epilepsy which occurs in persons with malformation of the brain or deformity of the skull, occurs also where these organs show the highest and most perfect development. The relation of cause and effect is in these cases too obscure for our comprehension, and we give its investigation over as a hopeless task.

The number and variety of these diseases are considerable; some of them are the most hopeless and painful of all those with which men are afflicted; but others are so void of danger, as to obtain for the sufferer a very small amount of sympathy. But the pain and misery they cause are far greater, than those which arise from other diseases. It matters not what others may say or think; the person afflicted with a nervous disease is always unhappy; to him the matter is always important. Nor is the pre-eminence of human suffering greater in the less fatal forms of nervous disease, than in the more dangerous. The forebodings of the hypochondriac are nothing to the fixed and silent melancholy of the epileptic; and if the form and expression of deep despair are to be painted, tetanus or hydrophobia will furnish the most perfect original.

---

## EPILEPSY.

This disease is very common, and if not hereditary in some families, is peculiarly liable to occur to persons of a particular temperament and organization. It is not always easy to assign any cause for it; as it frequently occurs to those who had been in the enjoyment of uninterrupted health. It is said to be more frequent in women than in men. Its attack is commonly during childhood, most frequently between the ages of ten and



twenty years ; but it appears that all ages are liable to suffer this peculiar affliction. Nothing can differ more in its effects than different cases of this disease ; some persons being subject to it for many years without very great detriment to health, while in others it proves destructive of life in a short time. Equally great are the varieties of its influence on the mind ; in some instances it proves truly destructive of the mental faculties, while in others if it has not increased, it certainly has not injured them. All the world are apprised that Julius Cæsar, Mohammed, and Napoleon, were sufferers by this disease.

The causes which have appeared to induce attacks of epilepsy, are not such as to enable us to point them out with much advantage towards the prevention of the disease. They are chiefly such as relate to affections of the mind. Violent passion, sudden fear, or intense excitement of any kind has frequently produced the first attack of this disease. In other instances affecting the body, a debauch in eating, a blow on the head, or other injuries seem to have led to the same result. Worms, undigested food in the intestinal canal, an overloaded state of the bowels, and a great many other things of like kind, have been mentioned as inducing a first attack.

It is not always that an attack of convulsions in the ordinary form of epileptic fits, will be followed by a return of the disease. Where convulsions are brought on by any violent disorder, such as bilious fever, measles, or small-pox, the disease is not subject to return again, except the person had a strong predisposition to it. Even a spontaneous attack which had not been preceded by any disease, is frequently recovered from without establishing that unfortunate habit, which may lead to the establishment of the disease during life.

The prognosis in epilepsy, is generally unfavorable ; the disease usually pursuing its course without being arrested by remedies. The violence of the symptoms would lead us to expect fatal injury to the brain, and to the organs concerned in the circulation of the blood ; and in some instances this appears to be true ; but there are many instances recorded, in which examinations after death have not detected any disorder of these organs, which might be assigned as the cause of the fatal termination. It is conceded, therefore, that our knowledge of the subject, does not enable us to decide on the particular organs affected by it. But, although we are bound to acknowledge our power over this disease to be so limited, experience justifies us in hoping, that a proper attention to remedies and regimen, during the forming stage of the disease, may

result in its arrest. The patient, therefore, on the first attack is not to be abandoned to despair.

#### SYMPTOMS.

The most violent cases of epilepsy are those in which the disease comes on suddenly. In a moment the patient falls perfectly senseless ; he ceases to breathe perhaps for a minute or two, when the most violent convulsions of the voluntary muscles take place ; the arms, legs, and neck are thrown into the most violent contortions, with a force far beyond the power of the individual when not under the attack. These convulsions last for a minute or more, when a small interval is allowed in which the patient breathes deeply and slowly, and then the convulsions are renewed. The contortions of the face, the sudden opening and closing of the eyes, the grinding of the teeth, the laceration of the tongue, and the issue of the bloody froth from the mouth, need only to be seen once to impress indelibly on the mind, the terrible features of epilepsy. In this way, the paroxysm sometimes lasts for hours together ; more frequently, however, the case terminates after the first or second paroxysm, and the patient is left as if in a deep sleep. If attempts are made to arouse him from this sleep, he shows either a total insensibility, or if partially aroused, a great want of consciousness. So complete is the insensibility produced in the first moments of the attack, that such patients frequently fall into the fire, where they lie without moving till they are frightfully burned. But should the patient escape such a catastrophe, he recovers his senses slowly, and this recovery is less and less perfect as the case progresses towards a fatal termination, the mind commonly giving way before the powers of life.

In other cases, the attack is also ushered in without any symptoms of its approach, till almost at the very instant it takes place. The patient is suddenly affected with a slight sensation, as if some slight vapor was passing over the finger or other part up towards the body. Writers have termed this sensation *aura epileptica*, a term which would signify how very slight the sensation itself is. The patient is, however, not deceived, but knows that it signifies the approach of his terrible disorder, and is in a high degree alarmed and terrified. He runs suddenly to a bed, or to some place of safety, where the convulsion comes on with all the violence we have above described.

In some instances, the disease is not so sudden in its at-

tacks ; and the patient is warned of its approach by symptoms which precede the attack several hours. These symptoms vary in different instances ; most commonly they affect the head, in other instances, a great oppression is felt about the heart, great sluggishness and stupor are felt for an uncertain length of time ; when the paroxysm comes on, with as much violence as in other cases. There are yet milder cases in which the attack seems to last but for a moment ; the patient will fall and without having any evident convulsions rise again to pursue his occupation whatever it may be. These cases have obtained the name of falling sickness, but do not differ materially, except in degree from other cases of epilepsy.

The state of the pulse seems not to have been very much noticed, in this disease. During the intervals it seems not to be much altered ; indeed there seems at that time to be no change in it which can be properly referred to epilepsy. But in the few instances in which it has been in my power to examine the pulse immediately before the attack, it has been depressed and feeble, but sometimes slow. After the violent convulsion has taken place, the pulse is full and resisting ; and the heat of the body rapidly increases for a time, but seldom results in fever.

A suspension of the intellectual faculties, of thought, memory, judgment, and even sensation, is the invariable characteristic of epilepsy. The patient never remembers that which transpires from the time he is attacked, till he has passed entirely through the paroxysm.

Epilepsy, during its first stage, is not apt to be frequent in its attacks ; sometimes the patient will pass years before the disease is renewed. If the case grows worse, the attacks become more frequent, and they have, from time immemorial, been supposed to be governed more or less by the moon ; the attack will come on at the full or at the change. Gradually the periods of the attack will become shorter, and more violent, sometimes affecting the health of the patient seriously. The mind very commonly gives way, when the attacks become very frequent, and the patient is reduced to a state of idiocy. The attacks most frequently come on at night, often during sleep ; and in this way, the disease goes on with increasing violence, till the patient is destroyed. The duration of the disease is uncertain ; it may last an ordinary life time ; but it is sometimes destructive of life in a few years.

#### TREATMENT OF EPILEPSY.

There are few cases of epilepsy so hopeless, as to justify

abandoning the patient to the mere operation of nature. If his symptoms cannot be eradicated, they may be, in some degree, ameliorated, and his situation rendered less uncomfortable. In the worst cases, where an attention to regimen and nursing form the principal part of what can be done, these things should be directed by the soundest judgment and maturest experience. If he can afford it, the patient should have with him at all times, a confidential and strong assistant or nurse. He should never be allowed to ride on horse back, and far less, to drive a carriage. He should not go even with his nurse into crowded streets, where an attack of his disease might expose him to more danger ; and should be kept at all times in a situation, in which the attack might not be attended with any particular danger. If he goes abroad, his attendant should be provided with an air pillow, which might in a moment be inflated and placed under his head, in the event of his falling on a hard or uneven place ; a chord should also be in the pocket of the attendant in cases in which the attack is first felt in any of the limbs, for in such cases, the paroxysm is often hindered by suddenly binding the chord around the limb above the point at which the affection is felt. His companion should also have in his pocket a wedge of soft wood to interpose between the teeth, and a draught of stimulating medicine, ready prepared for administration. A portion of ether, spirits of camphor, or laudanum, readily portioned out, and diluted with water for administration, will answer. This portion should be given to such patients as have even a very short notice of the approach of the attack, immediately on their giving notice of it to their attendant. Such a portion will very often arrest the paroxysm ; and I think I am not mistaken in saying, that I have seen this simple measure, by being persisted in, eradicate and destroy the disease. When the attack has taken place, the patient should, if possible, be laid on a wide bed, or even mat-trass ; and too much constraint ought not to be imposed on him, but just so much as will hinder him from injuring himself. No attempt should be made at this time to administer to him, any medicine, or compel him to breathe the usual stimulants, which are offered in this way to fainting persons.

The remedies proper to be administered during the paroxysm of epilepsy, cannot be numerous ; for the patient is incapable of swallowing them. Whether the newly introduced remedies, such as ether and cloroform, which are administered by being inhaled while they are in a state of vapor in the atmosphere, would be useful in such a crisis, has not, as far as I



am informed, been put to the proof. My impression is, that they offer a prospect of great utility, but I shall not venture to recommend any of them. The principal remedy which I have used in these cases is bloodletting. It should not be practiced too soon, but after the pulse has become full, strong, and resisting. This will take place probably before the convulsions have altogether ceased, and should be practiced as soon as the state of the pulse seems to require it. I think I have seen very great benefit derived from this remedy, all the symptoms becoming moderate, and disappearing soon after its use. The quantity of blood abstracted should not be great, a pint or a pint and a half, will generally be sufficient; and the operation should not be repeated oftener than twice a month, and not at all in confirmed and longstanding cases. Cold applications to the head, made by means of ice in bladders, or cold water on towels, will, I have no doubt, render good service in many cases. Where the attack is protracted, and some degree of fever appears, even before the convulsions cease, this application seems to be the more demanded.

The remedies proper to be used during the intervals between the paroxysms, are a matter of more doubt and uncertainty. A great deal has been said, in regard to the local disorders with which epilepsy seems in some instances to be associated. Certain cases seem manifestly to have their origin in the brain; depending as it would appear on malformation of the skull. Depressions of the skull from wounds, produce cases of this kind; and examinations after death have shown the presence of tumors, and certain alterations in the brain itself, which were calculated to impede the functions of that organ in a similar way. The only remedy which has been proposed in cases of this kind, has been certain artificial means of compressing the great arteries which lead from the heart to the brain. This lessens the force of the blood in its circulation through the brain, and has been thought of great service in some cases. This remedy is easily tested by placing the thumbs over the pulsation of the arteries in the neck, during the paroxysm, or so soon as it has subsided sufficiently to admit of it. The pressure should be regulated according to the judgment of the practitioner, and if found useful, some means to protract the pressure may be easily invented.

Disorders of the stomach are frequently thought to have a very close connexion with certain cases of epilepsy. In such cases, the attack is found to follow excess in eating, or indeed in drinking. I have no doubt that many cases of epilepsy are

aggravated by the disposition of the patient to indulge in eating. This unfortunate propensity, which seems to be born with so many persons, and tends to the production of dyspepsia, by excesses of eating, is of itself no cause for epilepsy. Still it may be a peculiar misfortune of epileptic persons, and requires great care and discretion in its management. Dyspeptics who are epileptics, should be treated with still more care than other dyspeptics; but they are to be treated for dyspepsia, and on the same rules which will be given for the treatment of that disease, in other cases. In these cases, the patient is frequently found to be feverish and excited, many days after a severe paroxysm of the disease. It is under these circumstances, that the use of emetics has been found beneficial. A common dose of ipecac, thirty grains, administered at once, will answer very well. If the fever still continues, and a more powerful remedy is thought necessary, take six grains of tartar emetic, put it into three table spoonsful of water, and give one every thirty minutes, till it proves emetic. It will be wholly useless to persist in giving such patients active depleting remedies. They have been tried to an extent that would hardly be credited, and they have been found useless or worse. The patient is to be treated as I have observed, for dyspepsia. These remedies look to the re-establishment in the patient, of a degree of health, which shall favor his escape from repeated attacks of his disease. They are, it will be acknowledged, too often productive of no greater benefit.

A class of remedies denominated alterative, would seem to be exactly suited to cases of epilepsy. They have been tried without much success. In certain cases, where the disease has seemed to depend on an affection of the liver, calomel has been found of great service. So far, it has not occurred to me in such cases to use this remedy with any advantage. I have several times prescribed it, but am bound to say, without any evident benefit. A new remedy of this kind has been introduced; the hydriodate of potash. This remedy I am told is now administered with some degree of confidence; and I have lately prescribed it; but so far cannot vouch for its good effect. Four or five grains of this remedy dissolved in water, may be given, once or twice a day, for an indefinite time.

The remedies which I have used to most profit in epilepsy, are diffusible stimulants, and tonics. The diffusible stimulants, are useful in cases in which the patient has some warning of the approach of the paroxysm. Where such remedies can be taken, half an hour or longer before the attack comes on,

there is great hope of arresting it. Where the patient is sensible that his attack approaches, he may take ten grains of camphor, dissolved in a little spirit, or a tea spoonful of compound spirits of lavender, or thirty drops of water of ammonia, or, in the absence of these, a strong glass of brandy and water. Any of these means, or other similar remedies, may be used. I have used tincture of assafoetida, and tincture of castor, with the happiest effects in these cases. Many years ago, I had placed under my charge, a mulatto boy, who had paroxysms of epilepsy twice a month, and three or four days in succession, at each term. The attack came on with the aura epileptica, or that strange sensation of a stream of air from the little finger up the arm. Several minutes would intervene between the occurrence of this symptom, and the loss of consciousness which attended the convulsion. The boy was directed to remain near my office, in which his stimulating draught was always kept in readiness. He was directed to run instantly, and take it whenever he felt his disease in his hand. The remedy he used was purposely varied, laudanum, camphor, spirits of lavender, or tincture of assafoetida or castor, were indifferently used. For many weeks he continued subject to his attacks, and would be seen to drop his employment and to fly with the greatest trepidation to his remedy. It was soon found that it had the control of the paroxysm; and by persisting in the use of these remedies for about three months, he ceased to have any return of the disease, and remained free from it as long as he lived. Little need be added on this head; the particular symptoms which point to the approach of the paroxysm, in different cases, are so various, that it would be in vain to attempt to particularize them. The mode of treatment is to first find out the exact time at which the paroxysm may be expected, and to anticipate, and if possible, to hinder it by the means I have mentioned.

Where the attack of the disease is sudden, and without premonitory signs, our reliance is on tonic medicines. The preparations of iron stand first with me on this list; about three grains of sulphate of iron or common copperas, may be given three times a day. It may be made into pills with turpentine, by first being reduced to powder by heat in an iron vessel, and then mixed with the turpentine and formed into pills. The carbonate of iron may be given instead of this, and should be given in doses of five or six grans, twice or three times a day. Warm stomachic remedies may be given in combination with these. Powdered ginger, or cayenne pepper, may be combin-

ed with them in making them into pills. In place of these remedies, other tonics may be used, and I know none entitled to much preference over the compound tincture of gentian, which may be given in doses of one or two tea spoonsful, before breakfast and before dinner. Or the extract of gentian, made into pills of four grains each, may be substituted, two pills being the dose. Tincture of valerian, has been thought particularly beneficial in some of these cases. It may be given in doses of from one to two tea spoonsful, two or three times a day. Tincture of assafoetida and tincture of castor are in my opinion better remedies ; but in reference to all these remedies, both stimulating and tonic, it should be observed that they are not to be continued for too great a length of time, without being changed for others ; it being a general fact, that medicines persisted in for too great a length of time, cease, in a great degree, to have their usual effect. Cathartic medicines have been much used in epilepsy. Experience does not seem to warrant the use of them, any farther than the state of the bowels in reference to the performance of their proper functions requires. A state of constipation should not be allowed to continue for any considerable length of time. The usual means of remedying this state of the bowels are proper here. A powder of equal parts of sulphur and cream of tartar, may be taken by the tea spoonful, once or twice a day according to circumstances. Pills of aloes may also be used. These, or any other very mild cathartic medicine may be used, when the symptoms seem to require it.

We are now to consider another class of remedies—those which act on the mind. Few things look more stolid and indifferent, than patients who are affected with epilepsy. It would be thought, that of all others, it would be hardest to reach their diseases through remedies operating merely on the mind. But we are bound to acknowledge, that where remedies having no other merit than this, have been brought to bear with great force on individuals suffering under this great affliction, many of the most unquestionable cures have been effected. The remedies which have been used for this purpose, have, in some instances, been such as to shock every sense of propriety or morals. Such patients have been induced to drink the blood of a malefactor ; to take in powder the bones of the skull, or other definite part of some great criminal. It would be useless to pursue the enquiry, or to enumerate the many articles which have been used in this way with success. Influences solely moral or religious, have also wrought their



miracles, out in this disease. Men standing high in the church, have set themselves up for the performance of these miracles; and many are the cases in which the miracle has seemed to be performed. Anything particularly shocking to the senses may accomplish the same purpose. There is at this time, a negro man, wearing around his neck a bit of rope, with which he believes a negro has been hanged. Some years ago, he was attacked with epilepsy, and being told that the wearing around his neck a rope which had been used to hang another, would cure his disease, and it happening opportunely, that one of his own color had been executed in the same neighborhood, the rope was procured and tied about his neck. His epilepsy instantly ceased; but after many months his owner removed the rope, and in a very short time his disease returned. Another rope was now procured, and he was made to believe that this rope had performed the same office of hanging another. This second cord was now bound around his neck, and the disease has disappeared. He now wears the cord, and is free from his dangerous disorder. Time is yet to show whether the remedy is permanent.

These remedies seem to have their foundation, in inspiring the patient with fear and horror; or, on the other hand, imparting to his mind, an unshaken confidence in their effect. Our great difficulty is, in producing a sufficient effect on the mind, without producing an effect too great to be safely borne. The disease itself is often brought on by sudden and great emotion. The awe and alarm produced by seeing a person have it, have often produced it in others. How then are we to manage a remedy whose operation we cannot foresee, and which may prove more destructive than the disease? More than all, it is obliged to be true, that such remedies can be useful only to the most ignorant. They are but little attempted by those who lead in the practice of medicine; and I confess, that I have nothing to suggest in reference to them. Where a case of the disease occurs under circumstances suited to the operation of this powerful moral cause, it must be left to the good sense and discretion of those concerned, to avail themselves of their agency.

---

#### LOCKED JAW—TETANUS.

The common name of this disease is so descriptive of its character, that it cannot be improved. When fully established, the jaws are so firmly closed, as to be incapable of being

opened by any feasible degree of force, or by the voluntary efforts of the sufferer.

The attack of this disease is sometimes sudden. It is said that the jaws are sometimes closed with a sudden snap. This it has not occurred to me to witness, but I have seen the jaws firmly closed within six hours of the onset of the disease. The first symptom which is observed by the patient, is a stiffness in the back of the neck, extending upwards towards the head. Some degree of soreness, and, especially, of dryness of the throat, is present at the same time. Very soon, a pain is felt under the sternum, which becomes, in the progress of the disease, violent—as some have termed it, stabbing. This pain is, I have no doubt, seated in the diaphragm. By degrees, the muscles of the neck become contracted and firm in front; and the patient moves his head with some difficulty. The muscles of the abdomen become firm, and somewhat contracted; and those of the back also soon take up the permanent spasm which constitutes the leading feature of this disease. At length the head is observed to be drawn back, and the whole spine curved more or less backwards: and this curve of the spine has been thought sufficient to characterize a variety of the disease; for the whole body, from head to foot, is drawn and stiffened backwards, in almost a semicircular form. In other instances, the muscles in front of the body seem to get the advantage; and the whole person is thrown as it were into the form of a hoop, in that direction. The firmness and permanency of these spasms, is such as to forbid the attempt to bend the limbs in any direction. When the person is drawn nearly straight by placing the hands under the head, and raising the body, it will appear as firm and solid, as a piece of wood. The breathing becomes, by degrees, very much oppressed; and the throat so contracted and ungovernable, that the patient becomes unable to swallow. Fluids, especially, become intolerable to him; and I have seen the fear of attempting to swallow water, as great as it could possibly have been in hydrophobia. The countenance, owing to the contractions of the muscles of the face, becomes distorted in a very great degree; sometimes to an extent truly frightful. The eyes seem to be drawn as it were nearer to the temples; tears flow down the face, and saliva issues from the mouth, exhibiting a spectacle of human suffering which can hardly be equalled in any other disease.

These violent spasms of the muscles take place without any affection of the mind. Some have stated that there is no de-

pression of spirits, and that the mind is wonderfully buoyant, and supported in these circumstances. My own observation does not confirm this statement. I remember a single instance, in which the patient seemed disposed to make a jest of his sufferings; but in every other instance in which I have witnessed it, the mind was filled with the deepest despair. Nor did the expression of the countenance produce a different impression on the mind of the beholder. Even before the contractions of the muscles of the jaws had rendered swallowing difficult, I have seen the countenance present the picture of despair. Still it is true, that the powers of the mind remain unclouded: there seems to be no lack of judgment, or of perception. The sensibility seems to be affected in a peculiar manner; a slight touch or tickling of the body, will produce a sudden and violent convulsion. I have noticed this particularly, on attempting to pass my hand near the pit of the stomach.

The peculiar affection of the nervous system in this disease, is worthy of notice; the contractions of the muscles do not appear to be firm and unresisting, from the first; but many sudden, and, as it were, electric contractions, take place, which leave the patient less and less capable of controlling the motions of the parts. Afterwards, by degrees, the contraction becomes permanent; but even to the last, an attempt to handle or move the patient, or even an attempt by himself to do any thing, will throw him into a sudden and violent spasms.

The pulse seems to be but little affected at the commencement of the disease; but it becomes gradually feverish and excited, and has been described by some, as running by degrees into an inflammatory state. I can not say, that this has been according to my observation. I have thought the pulse wonderfully tranquil, and but little affected, even in violent cases.

Tetanus, has, of late, been divided into the chronic, and acute forms; and this division I consider very judicious. But it is not always in our power, to assign positively to its place each case we may meet with. Chronic and acute can signify only a rapid and violent, or a slow, and protracted form. The length of time which shall constitute the one or the other, cannot be perfectly decided. I should say, that an acute case will produce the full developement of its worst symptoms, in two days; while a chronic case, will be twice that length of time, or longer, in getting to its worst. If death takes place in an acute case, it will probably occur in four or five days; while a chronic case will last four or five times as long.

## CAUSES.

A further division of tetanus has been founded on the difference in its remote causes. In most instances, the disease arises from some wound or injury inflicted on the body; but the probability of the disease succeeding any particular wound, cannot be foreseen. No wound is too slight to produce it; and none so bad, as to make its attack an object of particular fear.

In this climate, tetanus is a rare disease. I have witnessed about one case per annum; and of the cases I have seen, nine-tenths have followed the infliction of some wound. I have seen it arise from a burn on the arm, not an inch in diameter, which had entirely healed at the commencement of the disease; and I have seen it arise in three days from a gun shot wound in the foot. The same accident accuring to two persons under the same circumstances, as far as we can judge of them, will in one produce this disease, and in another not. It has occurred to me to attend to two young men who had suffered the same injury, each having leaped from a considerable height on the point of a twenty penny nail, which pierced the centre of the foot, entirely through. In one instance, a violent inflammation and suppuration took place, with the loss of several bones from the foot; in the other, a violent locked jaw took place on the fourth day; but very little inflammation ensued in the foot, and both of these cases finally recovered. So far as I have observed, the disease occurs principally in youth, between the ages of ten and thirty years.

I must not omit to mention in this place, the tetanus nascentium, or locked jaw of infants, which we occasionally meet with. This disease attacks infants from four days, to two or three weeks old. It is almost always fatal. I have seen but a single case of recovery; and even in that, the symptoms were not fully developed. It is so rare in this country, that it is not a matter of particular fear; though I have witnessed a dozen or more cases of it. I attribute it to the healing of the navel, which operates in this case as the closing of a wound. I know of no mode of guarding against it, nor have I any remedies to offer, but those applicable to other cases.

Although this disease, when fully developed, and having continued for some length of time, is so widely different from all others, that it would seem impossible to mistake it; there is yet a necessity of being on our guard against mistaking it for several other diseases, in its commencement. We have already stated its great resemblance to hydrophobia; and I am



persuaded, that cases of the two diseases sometimes produce symptoms so perfectly identical, that the discrimination would be exceedingly difficult. In hydrophobia ; there is commonly an easy reference to the bite of a rabid animal, as the cause ; but I have seen tetanus succeed the bite of a dog not rabid, which yet produced symptoms so like hydrophobia, that they would have been easily mistaken for that disease. The difference between these cases consists principally in the permanency in the spasms of tetanus, while those of hydrophobia are only occasional. The mind also in hydrophobia becomes disordered. Hysteria is another of the spasmodic diseases which sometimes resemble tetanus. I have seen this resemblance so close, as to have been myself in great and very embarrassing doubt of the nature of the disease. A little time and observation will always enable us to correct a mistake of this kind. It is only necessary to mention it, and no ill will result from this resemblance. The jaws are sometimes closed by certain swellings of the face, which might lead the inattentive observer into a serious mistake on this subject. In these cases, the tenderness of the parts will point out the nature of the disease. There are certain poisons that produce symptoms, which it would not be easy to discriminate from tetanus. One of them, *nux vomica*, it is said, produces symptoms so exactly resembling tetanus, as to be discriminated with the greatest difficulty. It is a rare case for this article to be taken to this extent. Strychnine, a salt which has been obtained from *nux vomica*, when taken in excess, or criminally given as a poison, is the most probable source of this accident. The investigation of any fact which might lead to the supposition, that tetanus had arisen from this cause, should be made with due care. These suggestions are dropped here, not that they will be very apt to be often required to be used ; but that it is our duty to be prepared, if such cases present themselves.

The causes of tetanus which it is in our power to guard against, or modify, are very few. It is agreed, that the disease prevails much more in tropical climates, than in milder or colder latitudes. Dampness is thought to be a great auxiliary cause. The tetanus of infants is so common in the West Indies, that it is regarded with the greatest fear. In low and damp localities, it is said that the children of slaves born there, perish by it in great numbers. In this country, from thirty to thirty-four degrees north latitude, the disease is not common, though occasionally met with. From wounds, it is also rare, and no precaution in regard to their treatment, has been proved

to be of any avail. The disease is as apt to come on after a slight, as after a greater injury; and the most dangerous period in the treatment of wounds is about the time they heal. The cases of tetanus which take place without the previous existence of any wound or injury, are most frequently attributed to exposure to dampness and cold. A man in a state of intoxication fell down and slept, exposed to the dampness of night and a light rain which happened to fall. I was called to him the next morning, when I found him laboring under the symptoms of tetanus. Many other cases of like kind have been recorded; but it is not the intoxicated alone who have reason to fear the ill consequences of sleeping exposed to the night air. This cause will produce it in many persons, who are of the most temperate habits. The time at which the disease makes its appearance, after the patient has been exposed to the remote cause, is uncertain. When it arises from exposure, the disease makes its appearance in a shorter time; but, from whatever cause it may arise, it will make its appearance within two or three weeks.

#### TREATMENT.

If the symptoms of this disease are formidable, the remedies which have been recommended in the treatment of it, are not less so. The doses of narcotics, and stimulants, which have been administered have been beyond all reasonable measure; and it must be confessed, that patients in tetanus bear the use of these stimulants with wonderful endurance. On the other hand, led by a different theory, there are authors of great repute, who insist on bleeding, and other depleting remedies. In the midst of this confusion, and without presuming to offer remedies with more confidence than they are entitled to, I shall state in a few words the remedies which I use in tetanus.

After having made up my mind conclusively, that it is a case of locked-jaw which I have to treat, I lose no time in administering opium, which I regard as the most powerful remedy in this disease. A large tea spoonful of laudanum, or four or five grains of opium, may be administered at once. If the spasms give way, which they sometimes will do, in less than an hour, the remedy is not to be lost sight of; but, after four or five hours, repeated in a smaller dose, perhaps half the quantity at first administered. This remedy is to be repeated according to circumstances, during the whole course of the treatment, taking care to lessen the dose, when its narcotic effects

appear too powerful. If the patient sleeps soundly, he is not to be aroused to take his remedy ; but to pass on till the effect of the former dose has sufficiently subsided. Where the case becomes protracted, the use of opium is still to be continued, under such modifications, and combined with such other stimulants, as the case may seem to require.

As soon as the first dose of opium is administered, prepare a plaster of mustard, about four inches in width, and a foot in length. Apply this along the course of the spine, from the nape of the neck downwards. Let this plaster remain for an hour or longer. Examine the skin, and see that the plaster is continued, nearly to the point of blistering. Then remove the plaster, and apply oil over the part ; but do not use cabbage leaves or a poultice, it being the object to continue the excitement in the skin, as long as it will remain.

If, by the use of these remedies, the patient is not immediately relieved of the spasm of the jaws, and pain about the pit of the stomach, he is to take in addition, proof spirits of any kind—cogniac brandy may be used in preference. He will take of this, diluted with water, about half a gill at a time, and repeat it if necessary every two hours, till a quart is taken. This remedy, when thus used in combination with opium, is sometimes found to arrest the spasms, when the opium itself has failed. I have seen it produce a fit of intoxication, and with it, the instant cessation of the disease, and to all appearance, lay the foundation of a cure. This remedy is also to be continued to the end, under such modifications as the case may seem to demand.

In combination with the opium, I have administered from two to four grains of camphor, with each grain of opium. This, I have no doubt, is a valuable additional remedy, and is to be continued under the same limitations, advised for other remedies.

I have tried many remedies besides these, especially sulphate of quinine, and various other stimulants and tonics ; but I do not believe they are entitled to any preference over those I have already recommended.

These remedies are suited to the highest grade of tetanus ; and I should hardly think it necessary, under any circumstances, to give doses larger than those I have recommended. Where the case so far yields to the remedies, as to show a cessation of the spasms, after their use, the physician has, from that time, to lessen his doses, and barely urge them to a sufficient extent, to keep the symptoms relieved. He will, in this

way, for many days together, find it necessary to be watchful of his patient ; and he will be satisfied, that the disease is at all times ready to return, as soon as the remedy is suspended. Where the advantage is once gained, and the spasms are subdued, the case will, with due attention, almost certainly terminate favorably.

The danger of tetanus is in proportion to the violence of the attack ; and when the remedies which have been suggested, do not arrest the spasms, when the pulse becomes rapid, and the patient bathed from head to foot in perspiration, a rapid and fatal termination may be expected. When on the contrary, the spasms give way, and the patient finds himself free from pain by the use of a few doses of his remedies, the case will almost certainly give way to proper treatment. It has been said, that the chronic cases were not fatal under any mode of treatment ; and that the acute cases were never relieved by remedies. This is not strictly in conformity with my experience. I think I have treated cases of the most acute kind, with success.

Doctor Rush, who seldom treated of any disease without advising bloodletting, advises this remedy in tetanus. When I first met with the disease, I tried it, and in addition to it, other remedies equally depleting. This course was taken in consultation with other physicians, and was then deemed the most promising of success. All the cases which I saw treated in this way, either under my own, or the direction of other persons, terminated fatally. Several years had passed, and I believed that tetanus was incurable. At length, a mulatto girl of twelve years old, from having received a small burn on her arm, was taken with this disease. I applied a sinapism along the spine, gave a large dose of opium, and left with her mother a pint of rum to be given in the course of the night. The next morning, I found my patient free from spasm or pain. She had not complained of the mustard, and it had been suffered to remain until the skin under it was entirely destroyed. A very foul and long continued ulcer, was the consequence. For several days the stimulants were continued ; and I thought myself warranted in withdrawing the opium and rum. But, on visiting my patient in the morning, I found her spine so curved backwards, as not to admit of her standing on her feet. She was relieved again by the renewal of the laudanum and rum, and got well under the use of about a quart of rum, with from sixty to a hundred and twenty drops of laudanum each day. This case occurred before it had been suggested, that



there was a chronic form of tetanus. I believe from what I remember of it, that it was entitled to be placed in that class ; and from that time till now, I have treated with success all the cases of this class, which I have met with.

But I have said, that it was not the chronic cases alone, which seemed to yield to these remedies. A strong negro man after receiving a terrible punctured wound in his foot, was seized with locked-jaw in three days. His symptoms were very violent. I gave him about five grains of opium, and applied a sinapism to his spine, leaving his mistress with directions to administer brandy and water, as fast as he could be got to take it, till he was relieved, or a quart of brandy taken. This was diligently done, and it required perseverance ; for he swallowed with great difficulty. In an hour or two, he had taken more than a pint of brandy, and became suddenly and furiously intoxicated. He arose from his bed, drove every one from his presence, and acted like a maniac for an hour or more. When I arrived, his violence had subsided, and his disease was gone. He was diligently, and uniformly stimulated with laudanum and brandy, for a number of days. The disease showed an evident tendency to return again, and again, but always gave way to the same remedies. Finally it subsided, and returned no more.

I could mention many other cases of this disease, which have been treated with like success ; but it would be useless. It is enough to say, that since I adopted the plan of treatment which I have described above, I have succeeded in relieving more than half of the cases of tetanus which have fallen under my care.

---

### SAINT VITUS'S DANCE—CHOREA.

This is a disease of the voluntary powers. The patient seems to lose the power of self-control, and is forced, in spite of himself, to the performance of various, and sometimes, strange and grotesque motions. These motions differ from the convulsions of epilepsy in this ; that, in chorea, the patient retains his consciousness, and is capable of making some voluntary efforts, though insufficient to control those, which are brought on by the disease. It differs from locked-jaw, in the perpetual motion to and fro, which it produces ; and it may be discriminated from hysteria, from the absence of that state of the mind which attends that disorder.

Saint Vitus's dance is a disease of youth, or rather childhood; the attack almost always happening before the age of puberty. It is most frequent in girls, from the age of eight to twelve years; but, in a few instances, occurs in the other sex. It may occur at almost any period of life. It is a disease rather disagreeable than dangerous; although, in some instances, it continues for the remainder of life, and has, in a few cases, proved fatal. Its mean duration may be set down, at from a month to six weeks; but it frequently continues for six months, or even longer. It is most likely to occur in persons, who are of what has been termed a nervous temperament. It has been particularly noticed, in those who are subject to sudden and strong emotions, from fear or other passions.

#### SYMPTOMS.

The attack of chorea, is not preceded by any known premonitory signs. The patient will be seen to perform some motion involuntarily; it may be a shuffle of the foot. More frequently it attacks the muscles of the face, producing violent contortions and grimaces; these motions are sometimes exceedingly rapid; the eyes will sometimes open and shut too rapidly for enumeration; the hands will move sometimes with equal rapidity; and, in other instances, the head will turn from side to side, more rapidly than could be done by any voluntary effort. These motions may, at first, last but a few minutes; but they return again, and continue for a longer time, till, at last, they seem to be established in some particular muscles, and continue for many years together. But this rapidity of motion is not common in protracted cases. I think the motions are generally slow, compared with the spasm of hysteria, or epilepsy. Sleep almost always suspends these motions; but the patient wakes again, to experience the same disagreeable visitation.

The mind does not participate in these disorders, but is, to a wonderful extent, calm and undisturbed. Instances have been mentioned, in which, from a combination of hysterical symptoms, the mind in chorea became much disorderd; but such a case has not presented itself to me. The general health of the body seems also to be but little disturbed. There is little or no fever, and if any disorder is noticed, it will probably be some derangement of the intestinal canal—it may be a diarrhoea, or it may be costiveness.

## TREATMENT.

Many remedies have been urged with great confidence on the profession, as cures for Saint Vitus's dance. It would be tedious even to enumerate them. Regarding the disease as one founded on debility, and arising from the imperfect performance of the natural functions of the body, I have fallen into the class of those who treat it with restorative, and supporting remedies. And this course of treatment, I believe, has the sanction of a very large majority of the medical profession.

The preparations of iron have been recommended by almost all, who have treated of this disease; and I have found them worthy of their high character, in its treatment. Take of carbonate of iron half an ounce, syrup or honey two ounces, or four large table spoonsful; mix well together, and give two tea spoonsful twice a day. Such a dose will contain from ten to fifteen grains of the medicine. But practitioners have indulged in an almost unlimited use of this remedy in this disease, twice, three times, or even four times what I recommend, have been often given; but I believe there is no use in giving larger doses, than those I have recommended. Several other preparations of iron are entitled to equal confidence with the one I have named. The precipitated carbonate, or red carbonate, is entitled to equal confidence in my estimation. The sulphate of iron, reduced to a dry powder, and administered in doses of two or three grains, has been well spoken of. If the patient can swallow pills, this preparation of iron, made into pills, with extract of gentian, would form an excellent prescription. The muriated tincture of iron, in doses of from ten to thirty drops, has also been given, with as much advantage, as perhaps any other preparation of this remedy. All these preparations of iron, have their advocates, and may be given in rotation; I prefer them in the order in which they are set down. That is, I first administer the carbonates, and if they do not answer according to my expectation, I may then change them for some other.

In obstinate cases, the preparations of arsenic have been used with success. From the sixteenth to the eighth of a grain of arsenic, may be administered, two or three times a day. The arseniate of potash, or Fowler's solution, may be administered for the same purpose, in doses of from five to ten or twelve drops. This remedy, it is conceded, has great control over Saint Vitus's dance; but it should not be persisted in too long; I should say not more than four or five days, in succes-

sion. The danger which may arise from the protracted use of arsenic, depends on the liability of that remedy to produce paralysis.

If the patient be a female, approaching the age of puberty, small doses of calomel, a grain a day, for five or six days, followed by a dose of oil of turpentine, has been highly recommended. A tea spoonful of the common spirit of turpentine, given in a table spoonful of water, is the dose that I should recommend. If it produces no cathartic action on the bowels, it should be followed by a dose of castor oil.

Cold bathing has been highly spoken of, as a remedy in this disease. If it is used, it should be in the form of a shower bath, continued for only a minute or two, and followed by extensive dry friction. My own experience with this remedy has not been very favorable to its high character.

I have not enumerated cathartics amongst the remedies for chorea. They are to be used for the purpose of regulating the bowels, but cannot be relied on as a remedy to arrest the disease. If the patient can be got to take pills of aloes and rhubarb, they will probably be the most beneficial cathartic in this disease.

In treating this disease, it is to be regretted that no sudden relief of the symptoms can be relied on. They commonly give way slowly, and imperceptibly; and we should be on our guard against crowding too many remedies on our patients, at one time.

---

### HYSTERIC—HYSTERIA.

This is a disease of but little danger; but from the similarity which it sometimes assumes, to other disorders, it becomes important that it should be properly understood and discriminated. It is, moreover, very common, exceedingly annoying to persons subject to it, and produces a state of the mind which is of itself a very great evil. It is a disease almost exclusively confined to the female sex.

The attack of hysteria is most frequent about the age of puberty; but it sometimes occurs much sooner. I have seen it plainly marked in a child of six years old. From this age onward, females are subject to attacks of this complaint. Though it is much less common in aged women, than in those who are in the prime of life.

Hysteria is a disease which occurs most frequently in parox



ysms. These paroxysms sometimes affect the mind principally ; the patient becomes very much excited. Certain internal movements are felt, as if a substance was rolling within the body, passing from the lower part of the abdomen up towards the throat, and producing there a sense of strangulation, or suffocation. The patient attempts to remove it by swallowing, but all in vain ; the choking still becomes worse and worse. At length, sudden emotion breaks forth, it may be a fit of laughing, which will hold on for many minutes, high and boisterous but involuntary. Suddenly it will cease, and a fit equally violent of crying, with a profuse flow of tears will take place. A great variety of symptoms might be mentioned, as attending these paroxysms of hysteria ; palpitation at the heart, eructations of air from the stomach, in great quantity, cold extremities, with a copious discharge of limpid urine. A state of great alarm is usually felt by the patient, at the same time. These symptoms, in a greater or less degree, may continue for an indefinite time.

In severe cases of this disease, the symptoms become more alarming. From an inability to swallow, the patient presently becomes unable to breathe ; and for a time, after struggling to obtain breath, a loss of consciousness takes place, with violent convulsions. These convulsions continue for a few minutes, when the patient obtains partial relief and breathes for a short time, and they are renewed again, with as much violence as ever. They do not appear to affect the muscles of the face and jaws, as much as epilepsy, but seem to affect other muscles, those of the neck, back, and limbs in preference.

I have stated, that hysteria frequently resembles other disorders. This feature has obtained for it a great deal of attention, to which it would not otherwise have been entitled ; indeed it constitutes at once, the most difficult and important matter connected with the disease. The most experienced and able practitioners have been frequently deceived ; and have mistaken hysterical for other disorders. It becomes us, therefore, to be on our guard, lest we fall into similar errors.

The disease which bears most resemblance to the more violent cases of hysteria, is epilepsy ; and the reader will recollect, that while hysteria is regarded as a disease more inconvenient than alarming, epilepsy is one of the most awful of human afflictions. The marks of discrimination between the two, are, therefore, of some importance. In the first place, it may be remarked, that epilepsy is the most overpowering of the nervous diseases. It first destroys consciousness ; even in

the slightest cases, the patient forgets himself, and every thing else. In hysteria, the mind is not, in the first instance, attacked; the spasm precedes the loss of consciousness; and many a time convulsions of considerable violence are experienced, while the patients retain a consciousness of every thing which passes; and frequently utter words which show, that the understanding is not destroyed. Where the disease is of a lighter grade, and does not produce convulsions, no derangement of the mind takes place. There is also an obvious difference in the violence of the paroxysms of an epileptic fit, and other spasmodic diseases. During paroxysms of this disease, breathing appears to be suspended; the violent contractions of the muscles force out through the mouth and nostrils, a bloody froth which, I believe, is never seen in hysteria. In the eye, there is also a marked difference; the pupil in epilepsy being enlarged, and the eye exceedingly dull; while in hysteria, there is commonly a contracted pupil, and an eye of ordinary brightness.

I have never seen the spasm of hysteria resemble Saint Vitus's dance; but it once occurred to me to see this disease take on the symptoms of locked-jaw, with a perfection which could hardly be credited. For a time, I confess, that I was entirely deceived by these symptoms; the jaws were so firmly clenched, as to render the administration of medicine impracticable, and I contented myself with extensive applications of sinapisms. In less than half an hour, the symptoms of locked jaw were abated, and the nature of the disease was no longer a matter of question.

It would be useless to pursue the subject of the many diseases, which hysteria seems to have taken it on itself, from time to time, to resemble. Diseases of the liver and spleen are the most common of these. Pain in the region of these organs often becomes very intense, from this disease. This pain, unlike ordinary inflammation of these organs, is rather rendered worse, than better, by the usual remedies for inflammation; and this is sometimes the first reason the physician has to suspect their true character. The lungs also are frequently disordered, with a peculiar harsh and obstinate cough, which is only to be relieved by the remedies for hysteria. Diseases of the joints and of the spine, are sometimes counterfeited by hysteria; and patients have remained for a long time under the supposition that they could not walk, or had incurable defects of the spine, or other equally unfounded ideas. Now, the whole of these, and many others that have been mentioned by authors, are

qualified to puzzle and perplex the ablest investigator. It would be useless to suggest the means of coming to a knowledge of the true cause of these complaints; for their varieties are infinite, and he who might describe all that have happened, would be far from having described all that may yet occur. I will mention a single feature of these cases; and I believe it will be found common to the whole. *Hysteria produces no emaciation of those who suffer by it.* They may have loss of appetite, and apparently wasting disease; but yet their limbs will be plump, round, and smooth; and, in many instances, their complexions fair and ruddy. Now, this state of things will not prevail in those who have the fatal disorders, which hysteria so often resembles. Where the disease does not appear to produce its proper effect on the system, it is often a just ground of hope, that the whole may have arisen from hysteria.

With one more remark, I shall have done with the resemblances of hysteria to other diseases. Persons who are subject to this disease, may of course be attacked by others; and, while laboring under these, the paroxysms of hysteria may come on, and render it difficult to comprehend the nature of the complaint. No rule can be given to guide the practitioner, in all these cases. He will be on his guard against supposing symptoms in these cases, to be merely hysterical. If, for instance, the disease occurs in bilious fever, as I have often seen it do, he will not overlook the necessity of the powerful remedies required for the removal of the fever; and he will be particularly guarded against treating such symptoms, as he would a common attack of hysteria. The same remark might be made in reference to many other disorders; but the subject would be endless, and must be turned over to the sound discretion of those who have to manage diseases thus complicated.

#### TREATMENT.

In the treatment of hysteria, it is to be borne in mind, that the mind is often as much concerned in it, as the body. The opinions, and especially the fears of the patient are not to be removed by reason, or even by raillery. Yet they are not to be encouraged or aggravated. A proper attention to all their complaints, is necessary and proper; but it is no advantage to them to witness our participation in their fears. Above all, it is our duty to treat their complaints with respect, and our patients with consideration; for although there may be no immediate

danger of death, there are at all times a solicitude and an agony, which are entitled to commiseration.

Few things produce more alarm and confusion in a family, than a violent, convulsive attack of hysteria, in one of its members. The first object to be attained, is calmness and self possession, in the mind of the head, or chief nurse of the household. Let every guard against injury be thrown around the patient. Let her be held, if necessary, but with the least possible constraint. Let her dress be loosened, and admit free air into the apartment. Avoid too great a crowd and forbid too much interference with her. The first question, is, whether she is able to swallow medicine. If she is, give her immediately, a tea spoonful of tincture of assafœtida, in water, and repeat it hourly, till the spasms cease—or a tea spoonful of tincture of castor, repeated in the same manner—or a tea spoonful of spirit of lavender, by the same rule—or thirty drops of laudanum, repeated to the third or fourth time, at hourly intervals, if the disease does not sooner subside. These remedies are mentioned in the order, in which I think them entitled to confidence. They may be alternated, according to the taste of the patient or her attendants. I often give thirty drops of laudanum, and then follow it with assafœtida, or other remedies. But it is necessary, to be guarded against using too many remedies at a time. Let each remedy have sufficient time to produce its effect, before another is administered. Let a time piece be kept at hand, for fear will otherwise measure time too rapidly. Many other remedies might be mentioned here, but the list ought not to be too much enlarged. Musk, camphor, oil of amber, and sulphuric ether are remedies of tried virtue, in these cases; and, if no better remedy were at hand, I should administer proof spirit, in such quantity as the patient might bear, without intoxication.

When the patient cannot swallow, pungent odorous, or volatile substances, may be applied to the nostrils, with benefit. Camphor and spirit of ammonia, have heretofore taken the lead, in such cases. But of late, we have two new remedies which have become famous for their effects, when inhaled as vapor.. These are SULPHURIC ETHER and CHLOROFORM. I venture, without much experience, to recommend the ether, in cases of violent hysteric fits. Pour half an ounce of ether into a saucer, and dip a linen handkerchief into it, suddenly, so as to allow it no time to evaporate. Take the wet handkerchief and apply it over the nostrils and mouth of the patient, so that the air she breathes must come through it. Hold the handkerchief



firmly, and do not let it be put aside; it will presently become agreeable, and the patient will breathe it with great eagerness. If no sensible effect is produced in four or five minutes, take another equal portion of ether, and use it in the same way. The few experiments I have seen made with this remedy, have satisfied me of its great power and perfect safety. It produces, in some cases, a temporary excitement; but, commonly, from the first, it produces a calmness, which soon results in profound sleep; this soon passes off, and the patient awakes to sensations altogether pleasing and agreeable. I therefore recommend it, in violent cases of hysteria; but the remedy is now in the hands of the profession at large, and I may say is held in high estimation. I should advise this remedy to be used in moderation. Like other powerful narcotics, it is apt to become too agreeable to the person who takes it. It requires the same caution in its use, which should govern us in administering opium or alcohol. But there is yet another method of administering remedies, to those who cannot, or will not swallow them. They may be thrown into the rectum by way of injection. Take three tea spoonsful of tincture of assafoetida, put it into a gill of cold water, and use it as an injection—or use in the same manner, tincture of castor, spirit of lavender, or spirit of turpentine. These remedies may be repeated from time to time, as they may be required.

Doctor Watson recommends with great confidence, an injection of ice-cold water into the rectum; or the application, made equally cold, by means of wet towels applied to the pudenda. The sudden shock of this remedy, has often brought to an end the most violent fits of hysteria. I have no experience of its use; but think it worthy of a trial, in cases which resist other remedies.

In many cases of hysteria, the symptoms are milder, and produce no convulsions, or violent disorder of the body. A set of symptoms often present themselves, which perplex those who attempt to study them, as much as they annoy the patient. The following is an account of the symptoms of a single case—"headache; pain of ears, and occasional deafness; frequent loss of voice; tightness of chest, dry, loud, sonorous, and very peculiar cough; dysecœa; spasm about the throat, with blackness of the face supervening, pain of arms; palpitation, acute pain of the epigastrium, and sometimes in the left lumbar region; irregular appetite for food, and chiefly at night; costive bowels; very scanty and high colored urine, with copious whitish sediment, but sometimes abundant,

and pale as water; menstruation quite suppressed, after being long defective; much pain of the lower part of the back; pain of the legs; disturbed sleep; great coldness and insensibility of the surface, particularly in the lower extremities, whilst heat applied to them produces mental excitement, and a disposition to loud singing; the palpitations induced by exertion, as well as difficult breathing, cough, much agitation, and violent crying." Never having taken the pains, to note down the numerous similar accounts of symptoms, which I have heard from the mouths of my own patients, I have copied this from the *Encyclopedia of Practical Medicine*. Every physician of experience, will bear witness of the faithful manner in which such patients detail their perplexing symptoms. But yesterday, I was listening about the tenth time, to one of these details, from a *man* in this hysterical mood. When I hoped the narrative was over, he said, "I have another symptom, doctor, of which I have never told you yet." And is it possible you have yet another symptom? said I! Nothing is more humbling to the man of science, than these cases. He will be asked a hundred questions in an hour, to which he can give no satisfactory answer; and, in spite of his invectives against quacks and their remedies, he must prescribe at last for the name, and not for the symptoms of the disease.

I have but little to say in reference to these cases of undescribed, and undescribable disorders. Hysteria is to be treated as hysteria—its train of diffusible, or nervous stimulants, must be brought to bear on it, as well as they can. *Asafetida*, *musk*, *valerian*, *castor*, and *opium*, may be used as they are demanded, and taken in their turn, in a moderate way. Remember, that time must do something, in these cases.

Remember also, that inflammation of the spleen and liver, dyspepsia, inflamed kidney or bowels, or indeed any other disease which hysteria can resemble, may be present when the numerous symptoms of this disease are also present. Be not, therefore, too confident that there is no danger, when the fears of the patient are a leading feature of the case. Few physicians will deny having fallen into such mistakes. The danger is often present, when we least expect it. It is only necessary to say, that when a dangerous disease is present with hysteria, the treatment of the most dangerous disease is the first consideration, and that these diseases are treated of under their proper heads.

I follow able writers in considering in this place certain strange disorders, which have been called hysterical. I know

not how else to dispose of them ; but they resemble any thing else as much as hysteria.

I will mention without much comment, certain disorders of sympathy, or, as it has been termed, imitation. Fits of hysteria, have been propagated in this way, so as to fall on several of one family, in quick succession. Whole wards of certain hospitals, are reported to have been thrown into confusion, from the same cause ; and I have some where read an account of a nunnery, whose inmates were almost all seized in the same way, with convulsions. These cases must arise from movements first made in the mind ; and, in this respect, they differ I think from hysteria. There is no setting limits to the power or influence of the mind. The community in which I reside, was once shocked by a popular citizen, walking into his garden under the rays of a beaming sun, applying a pistol to his head, and blowing out his brains. The next day another person performed the same deed, and at night a third attempted to cut his own throat. These strange things arise from moral causes, and are arrested by a change in the direction of the same causes. The old English law which punished suicide, by refusing christian burial, and abusing the dead body of the perpetrator of the horrid deed, was a powerful means of preventing such a crime. The fear of being exposed and ducked in cold water, is said to have stopped a contagious and spasmodic disorder, which at one time prevailed, in an English county. And it is only necessary here to say, that when these disorders invade a community, they are under the control of a powerful and united public sentiment. These horrid acts, and strange fantastic tricks, cannot face public scorn and reproach. If sympathy can cause these things, sympathy can also cure them. The sects and denominations of fanatics, which have combined on principles subversive of human happiness, have withered before the contempt of men.

There is another class of these disorders, in which the mind is chiefly affected. The patient will take it into her head, that she is paralysed and cannot walk ; or that some joint or bone of her body is diseased. Every conceivable pain may also be complained of, and the ease seem hopeless ; and yet, by a powerful effort of the will, the patient may rise and go her way. This form is not entirely confined to the female sex. I have known a man who having kept his bed for three years, arose and was well without remedy or the pretence of it. Such cases are often in this way recovered from, and the physician, to his great delight, relieved from fruitless investigations. In

other instances, powerful moral causes are brought to bear on them; their faith, or their fears, or their hopes, are excited, and they are relieved, as if by miracle. The great difficulty is, to know these complaints from the alarming diseases they resemble. Judgment should always lean on the side of charity, in these cases; and severe measures ought not to be taken hastily.

In large hospitals, these patients have been treated with great harshness. The cold douche has obtained great reputation, in the treatment of such cases. This remedy is a powerful current of cold water, thrown on the patient, and qualified to alarm and terrify, if not to cure. In this way, it is said, sudden relief has been obtained from symptoms resembling locked-jaw, and in other cases, sudden motion given to limbs long thought by their owners to be paralysed. In other instances, injections of iced water have been made into the bowels, with great perseverance; and, it is said, with the happiest effect. These remedies are so used, as to make the most powerful impression on the mind and body, at the same time. Such remedies ought not to be used without mature deliberation. They carry with them pain and suffering, and may do harm where improperly prescribed. The accounts we read, of their administration in certain hospitals, remind us of any thing rather than an institution of charity. They look more like the punishment of one of Don Quixot's unfortunate knights, who was cruelly punished by having given to him injections of "snow water and sand."

Strictly speaking, hysteria is not a disease of paroxysms, but continues all the time with symptoms, sometimes of little moment, but, at others, rising suddenly, even to convulsions. For the treatment of the graver and more alarming symptoms, I have given my advice. But for those which continue, and produce less disturbance, a word or two may be necessary. The choking which becomes almost habitual, and is endured in silence by thousands of the afflicted, is relieved by assafoetida. The most convenient, and least offensive way to use the remedy is in pills. Two pills of about four grains each is a common dose, and may be repeated several times a day. Those who cannot swallow the pills may take a tea spoonful of the tincture of assafoetida, or of castor in their place. These remedies are offensive, and communicate to the breath their offensive odor. To avoid this, tincture of valerian, or spirit of lavender, may be substituted. Now these are the best remedies we have for hysteria, and are to be used according to cir-



cumstances, while it lasts. But they are not remedies for the other diseases under which such patients may labor. A derangement of the function of menstruation, is a common attendant, and is to be treated as if it were a separate disease. Irregular action of the bowels, is also to be treated for itself; but, in such cases, a course, stimulating and tonic, is proper. Pills of aloes and gamboge, are a good cathartic, in these cases.

#### SUMMARY OF THE TREATMENT OF HYSTERIA.

In the first place, when the attack is violent, and attended with convulsions :

1. Secure the patient from injury, during her struggles.
2. Give assafoetida. A tea spoonful of the tincture in water, hourly, till the convulsions cease. A larger dose may be given in severe cases.
3. If the patient objects to assafoetida, give tincture of castor, tincture of valerian, or spirit of lavender, in the same manner and quantity.
4. Laudanum, or opium may be given in place of the above ; but it is less to be relied on. From thirty to forty drops of laudanum, or one or two grains of opium may be given, hourly, till two or three doses are given, if the disorder does not sooner give way.
5. If no other stimulant is at hand, give proof spirit, or wine.
6. Where the case becomes chronic, and the symptoms milder, they are still to be treated with the same remedies, repeated from time to time, according to circumstances.
7. Keep the bowels regular by the occasional use of a pill or two of aloes and gamboge ; and, if there are symptoms of disordered liver, give three grains of calomel with the pills.
8. In all cases complicated with, or happening in other diseases, let the remedies be directed to the removal of the most dangerous, rather than the most disagreeable disease.
9. Be guarded against treating hysterical patients with harshness or cruelty. No human affliction is entitled to more sympathy.

---

#### CATALEPSY.

This is one of the most astonishing forms of nervous disease ; it is said to occur chiefly in hysterical women ; but the two cases which I have witnessed, both occurred in per-

sons affected with mania, and one of these was a man. The affection, although most awful to behold, is not considered dangerous; it presents itself under some variety of symptoms, and has stood for the original, in many a romantic tale of trances and supernatural visitations. It occurs so rarely, that many have disputed its existence.

In catalepsy the patient is fixed, motionless, and senseless; the circulation of the blood is feeble, and the breathing so gentle, that the person has all the appearances of a corpse. In some cases, the similitude of death has been so perfect, as to have led to the interment of the patient alive. In the instances which I have seen of the disease, there was but little danger of mistaking the case for real death; for the pulse, though feeble, was still obvious, and the breathing was not entirely suspended; still the stiffness of the limbs resemble, in a great degree, the common stiffness of a corpse.

The symptoms of catalepsy, are as readily understood by the description of a single case, as perhaps by any other mode of describing it. A lady of high endowments, and high toned nervous system, became insane, her disorder continued for some months, and she seemed to be sinking into fatuity. One morning she was found in her bed, to all appearance a stiffened corpse; yet it was obvious that life was not quite extinct. I was called to see her, and found her lying on her back, with all the appearance of death, except that there was evidently some circulation of the blood, still going on—she was not as pale as a corpse. On taking hold of her wrist, the pulse was distinctly felt beating, about one hundred times in a minute. On attempting to lift her hand, the arm was found to be stiff; and, on applying sufficient force, it was raised up, as if she had reached as high as she could; on letting go the arm, it remained in this position, as if held there by a strong effort of the will. These experiments were varied from time to time; and it was found, that although the stiffness was so great, as to require considerable force to move the limbs from this elevated position; they yet would gradually settle back to the positions from which they had been taken. Nothing could be more awful than she appeared, when both arms had been forcibly raised and extended, her eyes opened, and her head raised from her pillow, as if she were in the act of rising. In this position she would remain to all appearance fixed, and immovable; for, with the closest observation, you could not discover in her the slightest tremor, or motion of any kind. She looked still and immoveable as the sun; yet like the sun, her head and her

limbs were descending to their place. In little more than half an hour, with a motion so gradual and steady that you could not perceive it, her eyes would close, her head descend to its pillow, and her hands to their resting place, at her sides. It was found impossible to pour any thing down her throat, and she continued in this state so long, that death, from starvation, was seriously apprehended. She was now in reduced circumstances, and her few attendants had become weary. One morning it was discovered that she had been up in the course of the night, and had eaten something which had been accidentally left in her reach, but she was found in her bed, in the same circumstances as before. I was again called on to witness the reality of her cataleptic condition ; it was the same I had before witnessed, and wholly impossible to have been voluntarily assumed. Food was now placed within her reach, and she arose about midnight every night, to partake of it. She would never arise for this purpose in the presence of any one, nor if there was a lighted candle in the room. I believe her system and manner of rising and eating in secret, were never detected. Her recovery from this state was very gradual, and I believe was never perfect. She was removed to a distance from me, and I never ascertained the particulars of the conclusion of the case.

I will mention another case of this singular disease. An insane man was affected with this rigid state of the muscles, and almost apparent death. His pulse was, however, not very much reduced ; he breathed audibly enough, and could swallow a small portion of any liquid poured into his mouth ; he was a youthful, vigorous, and very powerful man, and had in the beginning of his insanity, been treated with great harshness and cruelty. His attack of catalepsy came on suddenly, but was at first partial. Placed on a seat, he would sit there all day ; placed in bed, he would remain until taken up again. It was curious to observe him propped against a wall, or moved from place to place like any piece of lumber, but without any motion of his own. He was, in this state, placed in the lunatic asylum, near Milledgeville, where he remained for many months without much improvement. At last, it was announced, that he had, in some degree, recovered. I examined him and saw him take his food ; but some time afterwards he made his escape from the institution. After many days, it was discovered that he had some how, made a journey of one hundred and sixty miles, where he reached the residence of some of his relations ; but his recovery was still imperfect. Now nothing

can be conceived which would look more improbable, than even the partial recovery of this man. His catalepsy had lasted for nearly two years. I myself saw him a great many times, during that period; and his appearance, during the whole time, was such as to warrant the opinion, that even a partial recovery would be nearly impossible.

These cases do not comprise all the symptoms of catalepsy. The disease has not so often been seen in persons affected with madness, as in those subject to epilepsy, lethargy, or other nervous disorders. Its varieties cannot be estimated, and the manner in which it may exist in connexion with other nervous disorders, is little understood. The disease is said to attack suddenly, and pass off in the same way, but to recur in paroxysms. The patient is not always insensible, and sometimes such persons have a distinct remembrance of every thing which transpires around them, during the paroxysm. A story is told of a lady, who, in this state, witnessed with horror, the preparations which were going on for her interment, but still her inability to move continued. The only symptom which I think peculiar to it, is the waxy, or corpse-like stiffness, which pervades the whole frame; so that a limb bent in any direction stands immoveable, or nearly so. This state of the muscles, does not occur in any other disorder.

#### TREATMENT.

The treatment of catalepsy is by no means agreed on; its occurrence is so rare, that no one can be said to be experienced in its management. In the intervals which usually happen, there is an opportunity of giving remedies. I advise the nervous stimulants, assafoetida, castor, or spirit of lavender, in full doses, repeated once in two or three hours. If the interval is long, tonics should be added. Tincture of gentian may be taken in doses of a tea spoonful four or five times a day. A pure stimulant of proof spirit may be given at discretion.

During the paroxysm when nothing can be administered which is to be swallowed; apply sinapisms to the spine and to the arms and legs. Do not let them remain on long enough to draw a blister.

Writers advise bleeding, cupping, or leeching, in cases in which the face is flushed, and the pulse strong in the arteries of the neck. I think such cases will not be likely to occur. Till I see one such, I shall not advise bleeding in any way.

I say nothing of the general treatment of patients, who have



had paroxysms of eatalepsy. If they have other disorders, they will be treated with but little reference to eatalepsy, and it should not be forgotten, that with all its horrid symptoms, this disease is seldom fatal.

---

### NERVOUS PAIN OF THE FACE—TIC DOULOUREUX.

This is a disease of middle life, and seldom met with in persons under forty years of age; yet a few rare cases of it have happened in children, of nine or ten years of age.

The disease is known by a pain which occurs very suddenly in some part of the face, commonly in the upper part of one of the orbits of the eye. It is not always confined to the face, for the worst case of it which I ever witnessed, was described to me, as attacking a spot not larger than a quarter of a dollar, an inch or two above the ear. The pain in the face is attended with twitching, or sudden movements of the muscles; wherever it happens, the patient shrinks from it, as if he had received a blow: it is compared to the pain from stabbing. Few pains are more violent and intolerable; but, fortunately, they are not apt to continue very long without remission. In some cases, however, the disease proves exceedingly obstinate, returning at uncertain intervals, and rendering the patient's life a burthen to him. The disease is attended with no inflammation or tenderness; on the contrary, the patient often seeks relief by making violent pressure in the immediate seat of the pain.

#### TREATMENT

The causes of this disease are exceedingly obscure, and its treatment very uncertain. Where there are regular intervals, a very strong reliance may be placed in the sulphate of quinine. Divide sixteen grains of quinine into eight pills; give one every hour, till the whole are taken. This is a full allowance for one day, and should be so timed, as to be finished an hour before the expected paroxysm. Where the disease returns at uncertain intervals, this remedy is less to be relied on; for it cannot be continued beneficially for a great length of time. If it does not succeed in two or three days, it should be abandoned. Opium is a remedy which cannot well be dispensed with, in the treatment of these nervous pains. Sixty drops of laudanum, or half a grain of morphine, may be given

at the onset of the disease. These doses may be increased in extreme cases. I have administered double the quantity here recommended. This remedy affords but a temporary relief in this disease ; it should not be indulged in without necessity, nor forborne where the consequence is a long paroxysm of intolerable pain. Where the disease has considerable intervals, arsenic has been found useful, used in place of quinine. Ten drops of Fowler's solution may be given, three or four times a day. If it produces nausea, or pain in the stomach, the dose may be lessened. This remedy may be given at any time during the interval, or in the paroxysm, and may be continued for a week or ten days if necessary. Cathartic medicines have been recommended, and should have a trial in this disease. They should not be given on the same day with quinine, or too near the time at which laudanum may have been taken. Take of calomel, ten grains, gamboge, two grains ; make into pills, and give all at once, as a cathartic. Or take of aloes, ten grains ; calomel, four or five grains ; and gamboge, two grains ; make these into pills, and give all at a single dose. This last cathartic is especially proper, where the bowels are constipated, and there is good reason for supposing the liver does not perform its functions properly.

A great variety of local remedies have been recommended for this obstinate disease. Blisters, sinapisms, tartarized antimony, and I know not what else, have been tried and sometimes found beneficial. Take of tartar emetic one drachm, and rub it into about twice its weight of simple ointment ; rub it on the seat of the pain, and to some extent on the surrounding parts, till its peculiar inflammation, with pustules, is brought on. Or apply a blister over the part, and let it remain until fully drawn. These, and similar applications, may be varied to almost any extent ; heat by vapor, or even dry, has been found sometimes beneficial.

I confess I have not much faith in local remedies for nervous pains ; nor have I much more confidence in general depleting remedies of any kind, whether it be the use of the lancet, or emetics. or cathartics. My chief reliance is on the quinine, arsenic, and opium, I have recommended ; but where the case proves obstinate, and these remedies have been used till they have been found not to be beneficial, I advise a resort to a general course of tonic and restorative remedies. Of these remedies, preparations of iron occupy the first place. Twenty drops of the muriated tincture of iron, may be given in water, three times a day ; or ten grains of the carbonate, or red pre-

cipitated carbonate of iron, may be given also three times a day. Other metallic tonics have been recommended ; but I give a decided preference to those I have mentioned. The vegetable tonics are also proper in these cases. The extract of gentian, made into pills of four grains, by combining it with powdered ginger, is perhaps one of the best. Three or four of these pills may be given, in the course of the day. The compound tincture of gentian, in doses of a tea spoonful in water, three or four times a day, will also be proper.

Combined with these, a moderate use of wine, porter, or brandy, may be made where the strength of the patient is so much exhausted, as to require the aid of these stimulants.

We take leave of *tic douloureux*, without recommending the questionable surgical remedies, which have been recommended for it. The disease is, I believe, seldom, if ever, fatal. It is, however, sufficiently obstinate, to make the physician doubt the efficacy of his remedies, as much as he will dread the sight of his patient.

---

### HYPOCHONDRIA—HYPOCHONDRIASIS.

“Hypochondriasis, or the hypochondria malady, is a disease in which symptoms of dyspepsia, such as flatulence, eructation, with a sense of uneasiness in the stomach, and hypochondre, are combined with a remarkable lowness of spirits, or a desponding habit of mind, and a constant disposition to attend to every minute change in the bodily feelings, and to apprehend extreme danger from the most trifling ailments.” It has never been settled whether this is chiefly a disease of the mind, or of the body. That its symptoms often strongly resemble the most formidable diseases, is certain ; but that it is, in the main, unattended with serious danger, is equally certain.

It is important to know hypochondria, when we meet with it ; and this will not always be found an easy matter. The patient will often be found to present the appearance of sound health ; yet he fancies himself the victim of some fatal disorder ; and will describe symptoms which it will frequently be difficult for the practitioner to comprehend. These symptoms most frequently relate to the state and condition of the alimentary canal. Pain, costiveness, acid eructations, and other similar symptoms which the patient will detail with fatiguing

minuteness, are very common. Yet there is very little, if any, fever present ; but the tongue may have on it a slight brownish coat. The appetite is exceedingly uncertain, sometimes being voracious, at others, having a loathing for food, and frequently great pain and uneasiness at the stomach, after eating. In other cases, the symptoms are still more severe. A sense of violent distention, with sudden pain, is felt in various parts of the bowels ; and is but partially relieved by the discharge of large quantities of air, from the stomach or intestines.

As the case advances, the nervous system appears to become extensively involved. Violent pain attacks the head, sometimes intolerance of light, with vertigo or giddiness, and other indescribable sensations, which become, in some cases, too intolerable to be borne. These pains and symptoms of uneasiness, come on in paroxysms, when to hear the patient's account of his sufferings, they would frequently seem sufficient to destroy him, if he had a thousand lives. Great perturbation usually attends these attacks, which frequently occur in the middle of the night, when the patient, after having passed several hours in vain efforts to sleep, suddenly takes up the notion that he is dying, or about to die.

Great excitement of the mind, is almost always present in hypochondria. The patient is not insane, but exaggerates every symptom, and magnifies every pain that he feels. He will fashion up his array of symptoms, so as to demonstrate in his own mind, the impossibility of his recovering from the disease. He will frequently express himself as being weary of life ; but no one takes greater care, or swallows more remedies to preserve it. Such patients search for remedies with great eagerness, and willingly try every nostrum which is offered to them ; they are the great supporters of quacks, and the venders of quack remedies.

There would be no end to the detail, if we should attempt to set down all the aches, and pains, and ills, of our hypochondriac patients. Palpitation of the heart, intermitting pulse, difficulty of breathing, and other alarming symptoms, counterfeited, but too well the numerous, fatal diseases to which the heart and lungs are subject. If the patient reads medical books, his accounts of his symptoms will often be so exactly like those which affect persons in the most fatal disorders, that the physician who is not very much on his guard, will be often deceived by them. It is an acknowledged fact, that many cases of hypochondria are thus mistaken for the most formidable diseases ; the patient is carried through the most tedious pro-



cesses of medical treatment ; and it would be a great pleasure, if we could say with truth, that such treatment is not oftener pernicious than otherwise.

Enough has been said to render it obvious that there will often be great difficulty in discriminating hypochondriasis from other diseases. Between it and hysteria, the line of demarcation will often be difficult. It is far from being certain, that they are not the same disease. It is true that hysteria has been considered a disease of females, and the globus hystericus, or choking, which is its characteristic symptom, belongs almost exclusively to the female sex. It is also true, that the spasms and violent convulsions which follow in their train, are not known as symptoms of hypochondria. But in spite of these differences, there is so much resemblance between these diseases, that it is not always possible to discriminate between them. This is, however, a matter of no very great importance, for the treatment of the two disorders is not very dissimilar.

But the greatest difficulty which presents itself in the treatment of this disease, arises from its complication with other, and more fatal disorders. A patient afflicted with hypertrophy of the heart, dropsy of the lungs, colic, or other serious disorders of the vital organs, may, at the same time, be laboring under hypochondriasis. No rule can be given for the discrimination. The physician should be on his guard, against treating his hypochondriac patients too carelessly. Their complaints, if not very dangerous, are very annoying ; and to whom should they look for aid or sympathy, if not to their medical attendants ? The candid physician of experience, will not fail to acknowledge, that the dangerous diseases which are frequently complicated with hypochondria, are frequently so obscured by it, that it is almost impossible to detect them.

#### TREATMENT.

Few diseases are more difficult to treat properly, than hypochondria ; because it is seldom an unmixed disease. Where the patient has the appearance of health, and no disease of any particular organ can be detected, his remedies are to be directed, in a great degree, by the influence they will exert on the mind. A radical change of habits and pursuits, will probably effect more, than any medicine which can be given. If the patient leads a sedentary life, and is a student, let him lay by his books, and take severe or violent exercise. This may be

done on foot or on horseback, or if it is preferred, some laborious occupation may be entered into, till the disease disappears. Travelling has probably proved a remedy in more cases of this description, than any thing else. The summer excursions to watering places, have been recommended from the earliest times ; and such patients have been told to disregard the irregularity in diet to which a life passed in country taverns, or fashionable boarding houses, might expose them. It would be impossible to lay down rules on this subject, which would be applicable to every case. The sound discretion of the physician and friends of the afflicted, will be their best guide. One thing I would wish particularly to enforce on this subject ; and that is, that *a change of habit or pursuit is the most important of all prescriptions*. The patient must be torn loose from his habits of thought, and of action. I have seen a poor woman, who was borne down by the labor of providing for, and rearing a number of children, restored by being for a time withdrawn from the drudgery of her occupation.

But it is impracticable to limit our efforts in the cure of hypochondria, to the mere influence of moral agents. There are few cases in which there will not be a reasonable necessity for remedies ; and there are probably still fewer, in which the patient could, for any length of time, be induced to abstain from the use of them. His feelings assure him, that he labors under an awful affliction ; and he would consider it little less than self-destruction, to neglect the use of remedies. A few general rules on this subject is all that we can offer.

1. The first rule is, to administer such remedies as will maintain a regular and proper action of the alimentary canal. Such patients are seldom regular in their bowels ; they have sometimes a great formation of acid, which passes off their crude and ill digested food, like diarrhoea ; but far more frequently, the bowels are habitually costive. This costiveness, or diarrhoea, shows equally the imperfection with which the organs of digestion perform their functions. The matters discharged are usually pale or ash-colored ; although they are sometimes found to be of an uncommonly dark color. The same remedy may be used for the correction of these apparently inconsistent states of the bowels. A mild laxative pill, formed of aloes alone, is well suited to these cases. A single pill may be taken at night ; and if the bowels are not acted on in the morning, another. This may be repeated, from day to day, as long as circumstances require. Two or three grains of calomel may be added to these pills, if the bowels are un-

sually torpid, or if the diarrhœa is troublesome ; and it will be found on trial, that this remedy will tend to produce a regular action of the bowels, whether they had been previously affected with diarrhœa, or costiveness. These remedies, should not be persisted in longer, or repeated oftener, than the symptoms of the case require ; the calomel especially, it should be recollected, ought not to be given often enough to endanger a salivation. Where the bowels are tender, and, especially, where there are symptoms of piles, the pills of aloes ought not to be given ; but other cathartics substituted. Rhubarb and magnesia, are perhaps the best. Equal quantities by weight, of calcined magnesia and rhubarb, may be rubbed together, and a tea spoonful of the powder, taken in water, as often as it may be found necessary. These, or other mild cathartics, may be used to accomplish the design, of keeping in a regular condition the bowels of hypochondriac patients. They may be substituted by other similar remedies, without any manifest disadvantage ; but I should object to the use of any kind of salts, or of jalap, or other active cathartics.

2. The next class of remedies which I advise in these cases, is composed of those which have been denominated nervous stimulants. The principal of these, are assafoetida, castor, musk, valerian, &c. The doses and manner of using these remedies need not be repeated here ; they are particularly useful where the bowels and stomach are oppressed by wind, and there are wandering pains and cramps felt, in various parts of the body. These remedies are offensive and unpopular ; but they afford the best means we have of combatting the unpleasant symptoms of these disorders. I believe they are not much advised by medical men ; but from my own experience, I have no hesitation in recommending them.

3. In the third place, it is necessary to observe, that there are many cases of this disease in which there is a low, inflammatory fever present, all the while. This state of things is often founded on local disorders, too inconsiderable, or located on organs too remote from observation, to admit of our perceiving them. It is soon, however, made manifest by the effect of our remedies. Any stimulant which is administered, will be found to produce disorder of the stomach, with increase of all the symptoms of the disease. Very frequently, even a glass of wine, will be thrown up from the stomach. Such cases were treated with some success by the celebrated physician, Broussais, who considered a low inflammation of the stomach and intestines, as the foundation of this, as well as many other

disorders. His remedies were few and simple ; the application of a few leeches about the pit of the stomach ; the use of an occasional injection, and a diet almost entirely composed of thin gruel, or gum water. These remedies are, I have no doubt, well adapted to the cure of some cases of hypochondria. The few cases in which I have tried them, have given me a good opinion of their efficacy. I think there is no particular advantage in the use of gruel, or gum water. These are mere modes of restricting diet. A little rice, or hominy, given two or three times a day, will answer fully as well, and prove much more agreeable to many individuals.

4. Lastly. Recollect that hypochondria is commonly connected with some other disease, and that the remedies necessary for that disease, should not for a moment be lost sight of.

---

## RHEUMATISM.

This disease has been divided into two varieties, the acute and the chronic, both affecting the same parts or tissues—attacking the joints, especially the larger ones, and other parts of the body where a similar structure prevails. The disease is not a common inflammation, but specific ; running a course peculiar to itself, which sufficiently distinguishes it from every other inflammation. It affects what is termed the fibrous tissues, particularly the ligaments that surround the joints. Besides this, its attack is often felt on the fibrous tissues about the heart, where it becomes a most formidable disease. This inflammation, although sometimes very intense and acute, is little disposed to produce suppuration, or gangrene. Although adjoining parts may suppurate, those particularly affected by this inflammation, will still remain without that occurrence. The same fact holds good in chronic rheumatism. Here the disease may continue for a great length of time, and considerable alteration takes place in the structure of the parts, without suppuration or mortification.

Acute rheumatism produces the ordinary phenomena of acute inflammation, redness, heat, pain, swelling. It is generally seated near the larger joints, and is subject to be transferred suddenly from joint to joint, or to internal organs, especially the heart. This peculiar inflammation is attended with a high degree of inflammatory fever, very full pulse, flushed face, headache, profuse, sour perspiration, and a white



tongue, red at the tip. The urine is at the same time turbid, and acid. The fever continues inflammatory, seldom, if ever running into the typhus form. It seldom produces delirium, vomiting, diarrhoea, or petechia; but when transferred to the heart, the disease assumes its most malignant symptoms, and is sometimes attended with delirium.

Great tenderness attends this disease. Motion in the part affected is exceedingly painful; but even in a state of rest, the pain is, in many instances, exceedingly severe. The painfulness attending motion may be considered characteristic; for although the patient be in the greatest agony, he will be commonly strictly confined to a single position which he may choose as the easiest. Swelling is also a common symptom, and is scarcely absent in any cases of acute rheumatism; but the redness which naturally belongs to inflammation is seldom seen on the surface, for the disease confines itself, as I have stated, to the ligaments below. The symptoms of this disorder admit of considerable variety. The parts affected by it, are not always exactly the same—in some cases it seems to penetrate the joints, and attack the membrane with which they are lined. In others, the inflammation appears more diffused, and extends to a greater distance from the joints. These cases sometimes involve the surrounding tissues, producing, in some instances, suppuration, and other changes in the substance of the part. This diffused rheumatism, as it has been termed, presents the most violent and dangerous cases of the disease. When it is confined to the joints, the danger is far less. The resemblance to gout, in this disease, is striking. Its migratory character is the same; but to rheumatism especially belong the larger joints, the gout attacks the smaller. The habits of individuals attacked by this disease, may also give us a clue to a proper judgement. Those who are most exposed to the inclemency of the weather and great fatigue, are most subject to attacks of rheumatism. Causes the reverse of this, predispose to gout. Youth and middle age are the periods of life most subject to attacks of rheumatism. In small children the disease is rare, but peculiarly dangerous; for in these its liability to attack the heart is greatest.

#### TREATMENT.

No disease has been more fruitful of disagreement than rheumatism. While one will advise the use of the strongest stimulants, bark, opium and others of like kind, another will

tell you that these remedies are utterly destructive, and that bloodletting and calomel are the principal remedies. The disease, in its acute form, generally terminates favorably, sometimes producing stiffness in the joints. It terminates usually in five or six weeks, even when left to itself. The contest over, the remedies suited to its treatment are not yet over. Quinine has its violent supporters, and remedies apparently the most opposite, are equally in favor with others; I am reduced therefore, to the necessity of stating my own practice.

If called to rheumatism within the first week of its attack, where the inflammation runs high, and the pulse is full and bounding, I do not hesitate to abstract blood to the extent of eighteen or twenty ounces. Without loss of time I administer a decidedly effective dose of opium in some form; the celebrated Dover's powders in preference to any other. Divide thirty grains of this into three powders, and administer one hourly, till the three are taken—a full anodyne effect may be expected. Twelve hours' quiet rest, with great freedom from pain, is a common consequence of this treatment. True, the pain frequently returns, sometimes with symptoms but little mitigated, but I do not hesitate to repeat the same course. More commonly, however, I omit the bloodletting at the second prescription, and use the Dover's powder by itself. It is notorious, that spontaneous perspiration affords no relief, not even at the moment, to rheumatic patients; but a perspiration very copious brought on by the remedy I have advised, I have found attended with the greatest degree of comfort. If the disease continues without very great abatement, my plan is, to add calomel to the opium and administer at least ten grains of this remedy within the space of two days. Should no cathartic effect be brought on by the calomel, other mild cathartics may be employed, castor oil is perhaps the best. These remedies are to be continued until the disease gives way, unless the strength of the patient appears to give way. Where debility becomes manifest, although the pulse may be still to a considerable degree inflammatory, stimulants and tonics, judiciously used, are recommended. Here I should not hesitate to use the sulphate of quinine, to the extent of ten or fifteen grains per day. Nor should I fear the occasional use of brandy and water, having due regard to the time of administering it, and choosing that in which there is least fever. The acid state of the urine and perspiration has suggested the internal use of the alkalis, and I believe them to be beneficial. Carbonate of soda is the most convenient of these, and may be

taken in doses of ten grains, dissolved in water, from three to six times a day.

I have said nothing of local applications, for they have proved exceedingly inefficient. Still I can readily conceive, that where the disease is a little protracted, and runs into that state which some have termed subacute, local remedies find a proper place in the treatment. The best of these I have no doubt, are the most soothing; such as emolient poultices, warm fomentations, &c. The application of blisters, leeches, and other similar remedies, if made at all, should be at some distance from the seat of inflammation and not exactly on it; for I have observed that over a surface so intensely inflamed, a blister will scarcely be made to operate at all; and if it does detach the cuticle, it will not fill with the ordinary serum found in blisters, but with a thick gelatinous substance which will soon cease to flow, and produce but little benefit.

I have advised the use of calomel in broken doses, in this disease, but do not consider it desirable that it should be so used as to produce salivation. I should therefore not continue it for many days, together, although it will be found when combined with the remedies, exciting the copious perspiration we have so frequently alluded to, that a salivation will not be easily brought on. It is little to be feared from the use of this remedy, which a prudent practitioner may make.

#### CHRONIC RHEUMATISM.

Of chronic rheumatism there are two varieties, one which has a commencement like the acute kind, and does not give way, but runs on to the most interminable chronic variety. It is interminable, attended with moderate swelling, heat of the parts, and becomes, in its course, very much diffused, attacking the smaller as well as the larger joints. The treatment of this variety differs only in degree, from that which we have above detailed. The remedies cannot be concentrated in such force, and endured for such a length of time, as this modification of the disease might require.

The other variety of chronic rheumatism has been termed the passive. Very little swelling or soreness of the parts is produced by this disease. On the contrary, the pain which is often very extreme, may be relieved by pressure, or by violent friction. Warm applications, even in a dry form, afford great comfort to such patients; and perspiration, when induced, appears to afford them relief. This form of the disease frequent-

ly continues through the winter, gradually giving way, as the warmth of summer prevails. Sometimes it attacks the bones, producing swellings on them which have been termed nodes. It seldom, however, produces the destruction of the joints, so common in the forms we have been considering. For this form of rheumatism, I have of late seen the iodide of potassium, in doses of five grains, three times a day, highly recommended. I have no experience of its use in these cases, but do not hesitate to recommend the remedies which I have used. These are principally Dover's powder, from time to time, with such small doses of calomel as may be prudently used without exciting a high degree of salivation. Two grains a day of calomel, may be used for any reasonable length of time.

---

### GOUT.

Gout is the child of luxury. I have met with but few cases of it, within the range of my practice ; because, as I think, the citizens of the South, are an exceedingly temperate people. This temperance of ours extends especially to the use of fermented liquors, which cannot be called a common drink among us. Whether I am well founded in this opinion or not, it is certain that in this section of the country, gout is comparatively a rare disease. I have, nevertheless, met with occasional cases of it, and they have generally happened in persons who had inherited a predisposition to it from their ancestors. Still, it has usually happened to the more luxurious, corpulent, and idle, without hereditary taint.

The approach of gout may be seen in disorders of the digestive functions. The kidneys also are almost always evidently disordered in gouty persons. This has been attributed to the presence of the lithic acid in the blood, which I find is more and more regarded as the cause of gout.

Few diseases have been more studied, or better described, than gout. It attacks persons usually in the prime of life. At the dead hour of night, the patient, who had previously appeared to be in the highest health, is aroused from sleep by the severest pain commonly in the joint of the great toe. This pain amounts to agony, and admits of no rest. The patient shifting from side to side, without being still for a single moment, distinguishes this from an attack of rheumatism. Language has been tortured for terms to signify the agony which



attends this pain. The crush of a vise on the limb, turned till the pressure could be no longer borne, and turned again, has been thought to resemble the gout. A patient of mine described it by saying, that it resembled a rat tearing the flesh to pieces. This pain commonly lasts for about twenty-four hours, when relief spontaneously happens, almost as suddenly as the pain came on. The urine, which in the outset had been colorless, becomes now of a deep color depositing a copious sediment. The joint affected becomes tumid, and the adjoining parts red and oedematous or dropsical in their appearance. The skin also in this case becomes red, forming another mark of distinction, between this disease and rheumatism. These paroxysms recur perhaps several days in succession, when they cease, leaving the patient with considerable swelling, and a tenderness which cannot be exceeded in any other disease. As the swelling subsides, the epidermis becomes detached, and peels off, leaving the joint exceedingly feeble, and often considerably altered in its appearance. After the first attack, the disease gives way, and the patient, freed from dyspeptic symptoms by which he had been previously much affected, appears to enjoy for a time, much better health. He may now perhaps pass for years without another attack; but if his luxurious habits continue, if his potations of wine and beer are enlarged, he will hardly fail in due time to be reminded of these things by another attack of the gout. After this, the attacks become more frequent, and continue for a longer time. The pain perhaps may be less, but sickness and the prostration become greater. The joints become stiff from repeated attacks, and concretions around them, immediately next the skin, take place to a considerable extent. The matter forming these concretions has been termed chalk stones; but it is in fact not composed of chalk, but of lithic acid variously compounded. With every attack these deposits seem to increase, until at last, in some cases, the hands or the feet become wholly deformed, and the skin gives way, exposing the bare chalk, as it has been termed. The nervous disorders at this stage of the gout, are peculiarly harrassing. The patient's mind is filled with the most frightful imaginations, and he is in all respects truly a pitiable object.

Like rheumatism, gout is subject to be suddenly transferred from one organ to another. Sometimes from the foot to the hand, or rather from one foot to the other; but in other cases, the transfer is far more alarming, falling on the stomach, and perhaps on the brain, causing, in many instances, sudden death.

I have said that gout is considered a hereditary disease. But no one can flatter himself that he might not become the subject of it, if he were to press forward in the use of the food and drink which produce it. The causes of gout seem to be, excess in eating, excess in drinking, and excess in idleness. Now as to which one of these causes may be most apt to produce gout, it may not be easy to decide. My own opinion is, that it is caused principally by the use of fermented liquors, especially wine and beer. The habitual, and excessive use of these articles, it is thought, produces an acid state of the blood, generating in fact the morbid matter of gout. For it is believed that the acid which is deposited around the joints of gouty persons, is in truth the cause of the disease. Paroxysms of gout are often brought on by sudden emotion, or by an unusual amount of fatigue.

#### TREATMENT.

The treatment of gout may be divided into two stages—that which is proper in the paroxysm, and that which is proper in the interval. It was long the opinion of medical men, that the gouty patient was never so safe as when he had an attack of the disease, in one or another of his extremities. The late Dr. Barton, who had attacks of this disease, used to say in his lectures, that he was a happy arthritic, who had his gout in his toe. This opinion has been the foundation of a great deal of error in the practice. Free living, and even excess, has been recommended. But this by the way, as we are now considering the treatment of gout during the paroxysm. For a long time opiates and warm bathing were the principal remedies resorted to. But of late a remedy peculiarly powerful in these cases, has almost superseded every other. This remedy is colchicum or meadow saffron. It is considered by some a specific in gout. It is said to give ease, in the midst of the most frightful pain, to increase the flow of urine, and to change it from the acid state which is deemed the cause of the disease, to the alkaline, which is considered most compatible with health. From forty to sixty drops of the tincture or wine of colchicum, may be taken at bed time, and in the morning as long as the occasion for it may seem to be present. If the disease continues, it may be used after a few days in less quantity. Mild purgatives find a proper place in the treatment here, and calomel, that great remedy for local disorders, should be used in moderation in combination with colchicum.

I have stated that paroxysms of gout are sometimes produced by depressing emotions. They are sometimes relieved by emotions which are more violent and sudden. Doctor Rush mentions a case in which a gouty patient, who from having been alarmed by a wagon being suddenly run against the house, leaped from the chair to which he had been confined for months, and forgot the gout in his foot. I have known another case which may be compared to this. A gentleman having a foot extremely tender from gout, caused himself to be rolled in his arm chair to his piazza, to witness the robbery of a hive of bees. The hive, according to the prescription, was taken by a man and placed on his shoulders, while another was to set an empty hive in its place. The hive with the honey was to be transferred to a convenient distance, while the bees were expected to leave it and take possession of the empty one in its place. These industrious tenants had, however, very little notion of occupying the vacant hive. They sallied out and attacked the man who was bearing the hive on his shoulder, who instantly dropped it in the yard, and it bursted in many places. The bees now desperate, attacked men, horses, and cattle, and soon cleared the yard of every living soul. But when the storm was over, inquiry was made for the gouty gentleman, and he was found at a more distant point than any other person in the company, hidden securely in a gully in an old field.

The treatment of gout during the interval between the attacks, is chiefly the observance of a proper regimen. If the patient is young, and in the prime of life, he risks nothing in total abstinence from spirituous or fermented liquors; and this is for him the foundation of a proper treatment. A remedy from which he will at any rate experience great benefit, and probably entire relief from a dangerous disease. His food too should be that of a temperate man. I do not believe in the necessity of making it poor and meagre. I believe an amount of nutritious food in due proportion to the exercise he takes, is as safe for the gouty as for any other individual. The great difficulty is to subdue the will of a gouty patient, so that he will pursue such a regimen. He views the attacks as distant, and indulges an appetite which is rather increased by the attacks he has had. The mind also should be carefully used with moderation. It has been said, and is probably true, that intense study is one of the causes to which gout is fairly attributable. Sydenham attributed some of his attacks, to the intense study which he did in the composition of his medical works.

The mind, like the body, may be too much imposed upon by intense application to its pursuits ; and this should be constantly present to the view of a gouty individual. As to exercise, it is not very likely to be carried too far. It should by all means be carried far enough to bring with it the greatest degree of health and strength.

We shall have done with the gout, after noticing the treatment proper for the disease when translated to internal organs. The stomach is the most frequent seat of these attacks, and awful indeed are the pain and danger which attend them. It is not, however, every pain in the stomach which a gouty man may feel, that is a real translation of that disease to this important organ. Indigestion from an imprudent or excessive use of improper food, may cause an exceedingly severe pain in the stomach without much danger to the health of the patient. The practitioner in this disease, will not hesitate to give an emetic to clear the stomach of its contents ; and many times he will find his patient entirely relieved.

When the attack proves a real inflammation of the stomach from gout, it is to be treated as an inflammation of that organ occurring from any other cause, due regard being had to the debility which is manifestly present. As to inflammation of the brain, which may arise from this cause, it is generally so suddenly fatal, as to be scarcely a subject of medical treatment.

---

## ABSCESS.

A collection of pus in any tissue or organ, is called an abscess. This matter is formed from the blood by a process which is unknown. In abscesses it is found encysted or enclosed, so that it can not escape into the adjoining parts. To this, however, there are exceptions, in which the matter formed in an abscess finds its way to distant parts of the body. Natural cavities of the body, such as that which contains the lungs and the intestines, are sometimes, by the effect of inflammation, filled to a considerable extent with pus. Nor does it appear that any certain degree of inflammation, is necessary for the production of pus, for it is sometimes found to have been produced with but very slight symptoms of pain and tumor, which naturally belong to abscess. The pus which arises from acute inflammation, is pale, yellow, and turbid—that which arises from inflammation which has been long protracted, may differ very widely from this. I have seen it present the ap-



pearance of bloody water, and, in some cases, nearly transparent. The curdy matter, which signifies the presence of scrofulous disease, is often seen floating in such matter.

Few parts of the body are entirely exempt from the formation of abscesses; yet they are seldom or never seen in the substance of muscular fibres, or in the cartilages which immediately attach to the bones. The cellular membrane is the chosen seat of abscess. This tissue occupying all parts of the body containing generally fat, is the common seat of this disease. Abscess may also form in the substance of the lungs, in the liver, spleen, kidney, or even, though very rarely, in the pancreas. In the liver it is sometimes very formidable, producing as large collections of pus, as are met with in any part of the body. In these cases adhesion forms between this organ and the side, and the matter is frequently safely discharged by an external opening. In other cases, however, this adhesion does not take place, and the abscess being burst, discharges within the abdomen, producing certain death. The kidney and the bladder are also subject to form pus. These cases are uncommon; but inflammation of these organs which results in this way is exceedingly dangerous. The urethra which extends from the bladder, may be a subject of this degree of inflammation, without any dangerous results. From this source, matter is frequently discharged without any dangerous symptoms ensuing.

Various parts of the body besides those which have been enumerated, are subject to the formation of abscess. The disease admits of no great variety of treatment. When a collection of matter has happened, it should be discharged by an external opening; but, during the progress of the inflammation, there are many cases in which it becomes proper to treat the case with considerable activity, to avoid, if possible, the formation of pus. This is especially the case where the liver or lungs, or other important viscera are concerned. Inflammation in these organs tending to the formation of pus, should be treated with the most active anti-phlogistic treatment, consisting in bleeding, cathartics, antimonials, and other kindred remedies.

---

## PLAGUE.

The chosen seat of this disease is Egypt, and the other countries surrounding the Mediterranean sea. For many years it has not been seen on that part of this coast which pertains to

Southern Europe ; but its visits there are not forgotten : the laws formed for its exclusion, are still in force in many places. They are, however, believed to be wholly unnecessary ; for the contagion of plague, if it ever was the cause of its introduction into the South and West of Europe, has ceased to produce that effect, although the intercourse between these countries was never greater than at present. It is doubted whether it is even a contagious disorder ; and many physicians who have tried the experiment, by attending sufferers under plague, have escaped unhurt.

No disease is more entitled to the character of malignant, than this. It sometimes pervades whole districts of country, carrying off two thirds of all who are attacked by it. In other instances, it is comparatively a mild disease.

Plague is a fever of the highest typhus grade, destroying life, in many instances, in a few days. When the case is protracted a little longer, buboes and carbuncles appear, producing extensive suppuration, which, many times, exhaust and destroy the patient, after a tedious suffering.

The treatment most proper in plague has not been very definitely settled. As a grave and high typhus disease, we might reasonably expect the most benefit from the generous and supporting remedies. Fortunately, in this country, we are not very likely to become witnesses of its ravages. I shall, therefore, dismiss the subject with these few remarks.

---

### KING'S EVIL—SCROFULA.

A very large proportion of the diseases of the human family, are thought to arise from scrofula. By some, it is said to be the fruitful mother of a large number of the diseases of the skin, besides causing the formidable diseases, white swelling, consumption, and many others. To me, it appears exceedingly doubtful, whether the half of these diseases have a scrofulous origin ; but without attempting a discussion of these questions, I shall treat, under this head, only the diseases which are by all acknowledged to be scrofula ; and leave the affections which have been known by other names, to be considered under their proper denominations.

Scrofula is considered a hereditary disease, arising from an inherent tendency in the constitution, derived from the father or mother, or both. This transmission of disease, is univer-

sally admitted in relation to scrofula; and there have been many surprising examples of the disease having prevailed in parents whose children have escaped, and their grand children fallen victims to the fatal inheritance. It would then seem, that the disease arises naturally, in certain constitutional temperaments, and that the transmission from parents to children, is only a similarity of constitution, and not the seeds of disease.

The acknowledged tendency of scrofula, to appear in persons of a particular constitutional temperament, has led to much speculation as to what that temperament is. It is acknowledged that no temperament is entirely exempt; and that all persons have more or less to fear from this fearful visitor. Those most subject to it, are of a pale or white complexion, with fine thin hair, slender limbs, fine skin, and great sensibility. Many are characterized by high character, and high attainments. But many subjects of scrofula, are in all respects the reverse of this description; having dark complexion, coarse hair, and sturdy limbs. Of late it has been said to be most frequent in those having a low order of intellect; and that the negro is at least as subject to it as the white person. The inference from all this is, that scrofula is not a disease of any particular temperament or complexion, but that the tendency to the disease arises from causes not well understood.

Although scrofula has been from an early day considered hereditary, it has never been thought contagious. Many experiments have been made to test this question, and it is acknowledged, that the matter from scrofulous ulcers cannot be made to propagate the disease, in those unaffected by it. This is a very important fact, and I think may be relied on.

Cold and moisture are regarded as the great cause of scrofula; and it is certain that it prevails much more in countries that are cold and moist, than in others which are hot and dry. The poor who are exposed to hardship in populous places, where they are as crowded as they are destitute, are the greatest sufferers. Yet it is said, that in very high latitudes, where even the ice and snow of winter, are dry from extreme cold, that this disease is comparatively rare. England and Holland are said to be the countries in which there is most scrofula.

Scrofula is a disease of the lymphatic glands, but often affects other parts of the body, producing disorders of various aspects and very difficult to judge of. The true scrofulous tumour, is found in the lymphatic glands of the groins, the arm-

pits, the angle of the jaws or the mesentery. The disease is by no means confined to these parts, but produces in them its most unequivocal symptoms. The progress of the disease is slow. At first a hardness and enlargement of the gland is felt, but with little pain, and no redness, or sensible increase of heat. In many cases this hardness and swelling of the glands, form the beginning and the end of the disease. I have often seen the swellings of these glands continue for years, and at last gradually subside, but never to their proper size. In other cases, the gland enlarges, and at last grows tender with some discoloration, but rather livid or purple than red. The surface assumes a smooth and shining hue, and on examination the fluctuation of matter, will be felt. On opening the tumour a thin glairy matter will flow, with occasional lumps, resembling curd. These lumps are considered proof of the nature of the disease. They are not easily described, and vary considerably in appearance. They are said to be formed early in the process of the enlargement, and to be at first somewhat solid, but not organised. As the disease progresses, they become soft, and are discharged in a state which has been compared to wet tow, wool, cheese, curd and I know not what else. They often close up the orifice made for their discharge, and give rise to a great deal of trouble. Large abscesses of this description are often met with, involving other organs besides the lymphatic glands; but they are considered scrofulous. The worst of these abscesses, form in the joints. Those arising in tubercular consumption, which is another form of scrofula, may be considered worst of all.

But scrofula is, at the South, a less formidable disease, than it is in higher latitudes. The disgusting array of diseased glands, which deform the neck, and have, from the resemblance of the throat to that of a hog, given name to the disease, is rarely seen in this country. Nor does a slighter attack from the disease, foreshadow the train of incurable maladies, which follow it in other climates. I have witnessed many instances of scrofula in children, which have passed off, leaving the patient free from disease, and in the enjoyment of tolerable health for the remainder of life. The cases of consumption which I have witnessed, have not oftener occurred in persons who have in childhood had scrofula, than in those who were free from that disease. The fatal cases of scrofula which it has occurred to me to witness, have arisen from protracted glandular abscesses about the neck and groins, and abscesses of the joints in the form of white swelling. The various diseases of the skin



which have been thought to arise from scrofula, are, in my opinion, oftener the result of different diseases.

It is difficult to limit the affections which might be treated of under the name of scrofula. The protracted diseases of the nose, eyes, ears, and lips, and the obscure diseases of the skin, which are so denominated because they are not better understood, I shall not pretend to understand better than my predecessors.

I am persuaded, that no certain description can be given of the diseases which are entitled to be called scrofulous. I do not pretend to be able to say on the investigation of any case, that it is or is not scrofula. The curdy, or clabber-like matter produced in scrofulous abscesses, is thought the unerring sign of the presence of the disease. But this curdy matter is only seen at a late stage of the disease; and there are, unquestionably, many cases in which the formation of such matter cannot take place in consequence of peculiar structure. What then are we to treat as scrofula?

The physician will often meet with diseases which are to be referred to this class. Many of them may deceive him, and pass off as common inflammation. But he is not to forget scrofula. He will remember its slow approaches, always attended with the disorganization of some part. The neck will present its enlarged glands, the tonsils their enlarged and inflamed appearance, the knees or ankles their enlarged and deformed appearance, and the skin its endless diseases. And shall I add that the lungs, by a rattling cough, a hundred times disappearing and re-appearing in childhood and youth, point out the existence of the same destroyer. The progress of all these disorders is slow. The parts enlarge, but do not change color; and it is only when they have arisen to a great height of disease, that they become painful. They affect all parts of the system, the skin, the glands, the bones, the bowels, and the lungs are alike subject. We are then to treat as scrofulous diseases, those slow attacks which affect the parts with a low state of inflammation and gradual enlargement, produce fever with frequent and profuse perspiration, and tend to the formation of matter in the affected parts. These symptoms may arise from affections of the bowels, or the lungs, the skin or the joints. From whatever organ the irritation springs, it produces a low, irregular fever, and this is the fever of scrofula for which I shall point out a method of treatment.

## REMEDIES FOR SCROFULA.

No remedy has been discovered which is entitled to any confidence for the removal of the cause of scrofula. The disease may get well, but not by the direct operation of remedies. If the patient can live, and the disease confine itself to a small compass, it at last gets well. White swelling gets well of itself; scrofulous glands heal at last, and the disease most of all dreaded, even a scrofulous consumption, sometimes gets well. It is very important, to lessen the irritation, limit the extension, and support the strength of those affected with scrofula. Many persons are born with a scrofulous tendency too strong, almost, to be resisted. Such persons are often preserved by every effort to improve their strength and preserve their health. No particular direction need be given for such cases. They require every aid which may convert weakness into strength. But in spite of all, and sometimes in those who least expect it, the disease comes on.

The first question which presents itself is, whether there is present a state of inflammation and fever, which will be benefited by the use of depleting remedies. As a general rule, these remedies are improper in scrofula. They have been tried in a large field. The English bleed, and the French starve, for the relief of all inflammatory disorders. They have tried these remedies in this disease, and they have been disappointed. The inflammation produced by scrofula cannot be subdued by bleeding or leeches, antimonials or cathartics. The use of these remedies, in this disease, must be limited to the temporary abatement of pain and fever. They may postpone suppuration to a later day, but they will not prevent it; they may lessen fever, and pain, but they will not remove them. The rule is to use, and not abuse, depletion in scrofula. If the disease attacks the joints, the ankles, and wrists, for example, and is attended with much pain, leeches and cold applications should be applied to the parts. A cathartic may at the same time be given—rhubarb and magnesia in preference to any thing more active. These remedies may be followed by a dose of laudanum at night. How often they are to be repeated, and at what intervals, will depend on the effect they produce, and the state of the patient. If they give relief from pain, and lessen fever, they may be repeated, but with due care not press them too far, as we have much more to fear from debility, than inflammation, in this disease. These remedies are, as I have said, of limited usefulness in scrofula.

They are to be abandoned, if the patient is much debilitated, and after the matter from abscesses is discharged. They are no longer useful, when the flabby ulcer, and thin skin over cavities hollowed out by suppuration, are present.

Tonics are important remedies in scrofula. These include a wide range of exercise, diet, drinks, and remedies. Exercise in the open air is the great remedy for this disease. It should be suited to the age and strength of the patient, but is by no means to be neglected. Riding on horse back is considered by far the best exercise for scrofulous diseases, and the exposure to rain, sun, and wind, which it gives rise to, are not considered as furnishing any objection to it. But other, and more convenient modes of exercise may be used. Walking is a good mode of giving exercise to the body; but the muscles of the body and arms are not sufficiently brought into use, unless the speed is raised to running. This is accordingly advised, and is preferable to the throwing of weights or other contrivances to bring particular muscles into violent action. Whatever mode of exercise is chosen, it should be pursued with due diligence. If riding, let it be on a hard trotting horse, pushed as long as the rider can well bear it. If exercise on foot is chosen, let running, especially up hill, be a part of the direction. If labor of any kind is preferred, let it be like the man with the baton in the Persian Tales, pushed so far as to cover the body of the patient with perspiration. This means of giving strength and power to the body, can hardly be over estimated. It will not do, even in childhood, to trust this great want of nature to the calls of inclination. Scrofulous patients are inclined to be torpid, and will not, except under positive injunction, take sufficient exercise. Still it is to them the most important of all remedies, and is to be insisted on as the foundation of proper treatment. If exercise in the open air is taken, it can hardly be carried too far or continued too long, if the fatigue can be borne. It is surprising to see what amount of severe exercise even the consumptive can take, with advantage.

The pure stimulants, and mineral and vegetable tonics, find their place, in the treatment of scrofula, at an earlier day than might be expected. The disease is one of debility; and if there is fever present at some part of the day, there is still a longer portion, in which the pulse is low, and the skin moist. During this time, some tonic or stimulant should be taken. Trial may be made of fermented liquors—porter, strong beer, or wine. Observation and experience of their effects must

govern their administration in each case. Proof spirit may also be tried, and I have found good brandy a first rate remedy in these cases. It may be given in the shape of toddy, or brandy and water, three or four times a day ; always choosing the time in which the skin is moist for its exhibition. I have more faith in these pure stimulants, than I have in the bitters and mineral tonics which I think are commonly preferred. A skin flowing with perspiration belongs to scrofula, in whatever form it is met with. I have advised pure stimulants to combat these symptoms ; but others prefer the mineral and vegetable tonics. There is no decided preference due to any particular article of these classes. The elixir of vitriol may be given in doses of from ten to twenty drops, two or three times a day—or the muriated tincture of iron, in doses of ten or fifteen drops, twice a day—or the compound tincture of gentian, in doses of a tea spoonful twice a day. The wild cherry furnishes a bitter which is thought to carry with it a peculiar anodyne influence, beneficial in cases of scrofula. A tincture from its bark, or a decoction made by pouring boiling water on it, may be tried. These preparations should be made strong, by using the bark in excess. Of the tincture made by steeping the bark in proof spirit, a tea spoonful or two may be taken at a dose ; the decoction made by boiling the bark a few minutes in water, may be taken in doses of one or two table spoonful.

All these remedies for the restoration of the health of scrofulous patients, are to be used with diligence and perseverance. They are not to be persisted in too long, when they are not found to be beneficial, but may be changed or extended to other remedies ; taking care to use them one at a time. Let the treatment always rest on some particular remedy, and change it when it is not found to answer. The old plan of using a multitude of remedies, under the vain hope, that some antidote to the disease might thus be included in the prescription, can never be sufficiently repudiated.

Scrofula is a disease of the constitution, and the remedies I have mentioned do not pretend to the removal of the constitutional tendency. But if they preserve a high degree of health, or restore the lost strength of the patient, the scrofula may be kept from advancing perhaps for a whole life. There can be no doubt, that many persons who have a constitutional tendency to this disease, escape it when thrown into a favorable climate, and under circumstances calculated to ensure health.

But physicians have not willingly submitted to a plan of treatment so restricted in its purposes. Remedies termed al-



teratives, have been used with more or less confidence in scrofula, for a great length of time. These remedies are supposed to have power to remove the cause of the disease, and hinder the liability to its return. This high pretension has not been ratified by time and experience; but there are several medicines which I think entitled to some confidence, for their peculiar effects, and for which I know no better name than alteratives. Of these, I shall mention only two—mercury and iodyne. Mercury is thought to stand on equivocal ground, in the treatment of this disease. It is even thought by some, to produce of itself a disease much resembling scrofula, and many are the deaths which have been attributed to its indiscreet use. I think it only necessary to say in this place, that I think this is a prejudice without any just foundation. No patient should be allowed to run into a wasting hectic fever, from scrofula, without a fair trial of mercury. We are charged against pushing the remedy to high salivation, in these cases. My experience is, that there is very little danger of this. Patients, in scrofula, waste at every pore. Their bowels are easily excited by cathartics, their lungs throw off mucus in abundance; and the skin and the nostrils and the eyes, throw off their accustomed secretions, with great excess. Such patients are not easily salivated. On the contrary, I have found it exceedingly difficult to produce on them the slightest mercurial impression. I have found the bowels, in such cases, incapable of retaining a single grain of calomel; and the remedy, in any form, wholly inoperative, except as a cathartic. I advise a trial of mercury, in all cases of scrofula, where the constitutional symptoms are serious, and hectic fever is beginning its career. If there is extensive ulceration of the skin, large swellings of the glands, or abscesses involving the joints or deep seated organs of the body, give this remedy a fair trial. Take of calomel ten grains, opium five grains, and divide into ten pills; of which, give one, evening and morning. If on using the whole, no symptom of salivation appears, prepare ten more pills, and continue them in the same way. Continue this remedy in this way till a slight salivation is brought on, or till it is found impracticable to effect it. When a slight swelling of the gums is brought on, and some spitting, with the fetid breath, so easily known as an effect of salivation, the remedy is to be suspended for a few days. If the salivation grows less, the pills may be taken, one a day, so as to keep the mouth a little sore, but not so much as to hinder the chewing of bread. If the patient is a child under seven years old,

a salivation is to be avoided, or kept within narrow bounds. Children ought not to run the risk of a salivation, without necessity. But the remedy may be used safely at any age; and, in children, is only to be more carefully watched, and suspended, if salivation takes place. If the symptoms grow no better from salivation, the remedy is to be abandoned, after a week or two. Other preparations of mercury are sometimes preferable to calomel. The corrosive sublimate, or bichloride of mercury, is preferable where the disease is attended with much suppuration, or attacks the skin. Take ten grains of corrosive sublimate, and dissolve in an ounce of proof spirit, and give ten drops, two or three times a day. If it produces vomiting, lessen the dose; and if it produces salivation, suspend it, and proceed as if the salivation had been brought on by any other means.

The hydriodate of potash, a tripple compound of mercury, iodine, and potash, is said to unite the properties of these remedies, in an eminent degree; and is probably at the present time, more extensively used as a remedy for scrofula, than any thing else. Take of hydriodate of potash one drachm, dissolve in two ounces of water, and give from forty drops to a tea spoonful, evening and morning. If it produces pain about the throat, sneezing, or other painful irritation, the dose may be lessened. This remedy will seldom produce salivation, swellings of the face, or other unpleasant irritation; but it is to be used with due care, not continued more than two or three weeks at a time, and suspended if it produces much constitutional disorder.

In the treatment of scrofula, it is to be recollected, that the disease is chronic and constitutional; and that, in some of its forms, it may be present without proving fatal, for an ordinary life time. Slight attacks of it are, therefore, not to be unnecessarily interfered with. The disease should be carefully watched; and if found to be increasing, the proper remedies administered for its relief. If it grows worse after a sufficient trial of one remedy, let another be prescribed; for I know of no rule by which the physician can be certain before he has made the trial, what remedy will prove most beneficial in a particular case of scrofula.

The treatment of the local disorders which arise in scrofula, must be regulated by the circumstances which attend the case. Where the disorder attacks the bones or the joints, producing deep-seated and extensive swellings, the local remedies are to correspond with the violence of the attack. If the swelling has

been sudden, and the pain intense, leeches, cupping, or cold applications, may for a time be tried. But it is a great deal more common for these swellings to make their advances more slowly, and to produce their effects without a great deal of pain. When these swellings take place in the glands, they are quite as indolent and free from pain, as in many other situations. Such indolent tumours are to be treated with stimulants, rather than other remedies. Heat and moisture may be applied by means of hot poultices, renewed several times a day. Tincture of iodine may be applied over the swelling, by means of a feather, once or twice a week. It should be so applied as to color the skin deeply, and then allowed to evaporate to dryness. It will produce a sense of warmth and pain in the part, but will not cause blistering, unless the application has been continued too long. Should it produce blistering, no application will be necessary on account of it; the blister will heal very soon, and the remedy may again be applied, if necessary. Other stimulants may be applied, in these cases, with advantage.

Ulcers which arise from scrofula are slow in the process of healing. The glands of the neck and arm-pits, are often discharging their pale, thin, and frequently curdy matter, for many weeks before they can be made to heal. The affections of the skin which arise from this cause, are equally untractable, and much more difficult to be known. Many ulcers are improperly charged to scrofula, by experienced physicians; and it is not to be expected, that others should escape such errors. But such mistakes are not often productive of much injury. The worst consequence is the neglect they sometimes occasion in cancerous ulcers, which require extirpation by the surgeon's knife.

Open scrofulous ulcers are to be treated with stimulants and styptics. Alcohol, tincture of myrrh, tincture of bark, proof spirit, or other remedies of like properties, may be applied, once in a day or two. The strength of the application may be regulated by the addition of water which is to be added till the remedy does not produce too much pain. But such ulcers are commonly insensible, and may be treated with undiluted tincture of myrrh or alcohol. Where the ulcer is deep, lint may be inserted, and tincture of myrrh dropped on it. The lint should be renewed, from day to day, and not packed or forced in, but laid gently on, or inserted in such a way as to produce the least pressure. A plaster of simple ointment may be applied over the lint.

Styptic applications destroy unsound or unhealthy granulations, and give an opportunity for those which are healthy to rise in their stead. The best styptic is lunar caustic. The part may be touched with the solid caustic, or a strong solution applied with a small mop, or camel-hair pencil. Forty grains of caustic, dissolved in an ounce of water, is not too strong. The application of a few drops at a time, will be sufficient. Arsenic, in the form of Fowler's solution, may be applied in the same way: and when there appears to be no benefit, in the application of lunar caustic, should be tried. It will be safe to apply it with a pencil, to a raw surface for a few days; but it is not to be forgotten, that arsenic is a poison which may be absorbed from a raw surface, and on that account is not to be used longer than it is found necessary. A solution of corrosive sublimate, in water or spirit, may be used, under the same restrictions. Four grains of corrosive sublimate, in an ounce of proof spirit, may be used. Ten grains of corrosive sublimate, dissolved in an ounce of lime water, forms a wash, which has been much used in ulcers of this description. The red precipitate is another preparation of mercury, which I have found extremely useful in indolent ulcers, whether scrofulous or not. It may be applied by sprinkling it on the raw surface, or it may be rubbed into lard, or simple ointment, in about the proportion of a drachm of red precipitate to an ounce of simple ointment. If the surface affected is extensive, this remedy may be absorbed, and produce salivation. I have used it on ulcers of the legs, not only as a styptic, but with a view to produce salivation; and have found it a safe and successful remedy, for both purposes.

I have not mentioned the remedies, which once had most faith and confidence attached to them, as cures for scrofula. It was once thought, that if a true saint, or a true king, laid hands on a child affected with scrofula, the disease would disappear. The common name king's evil, has grown out of this superstition. For ages it was the custom of the kings of Europe, to give audience to, and touch those afflicted with this disease. The shrines of saints were visited by multitudes for the same purpose. The testimonials of relief from rites so puerile, are so strong that it has raised a question, whether there may not be some relief from remedies affecting the imagination alone. Reasoning from analogy, there would appear to be as little hope from remedies of this description, in scrofula, as in any other disease. A fair trial of them is extremely difficult; for the effect produced can only correspond with the



superstition of the patient. I believe the cures pretended to have been performed, have been the manufacture of credulity and exaggeration; and that the contempt now entertained for these workers of miracles, is no more than they were always fully entitled to.

---

### CANCER—CARCINOMA.

Cancer is fortunately not a very common disease; yet it is so common, as to be an object of reasonable fear to mankind. Its untractable, or rather incurable nature, is universally conceded. It has not been till within a few years, that anything like a scientific knowledge of this subject has been obtained. And even yet it is quite uncertain, whether we are not treating of several distinct diseases under this single title. This, however, is a matter of less concern, since all those of which we are now to speak, are equally incurable.

The first and most common form of cancer, is what has been termed scirrhus. This is a growth as hard as cartilage, taking up its residence, as it were, in some of the softer tissues of the body—in the lip, the tongue, the breast, or other part. The part attacked by it, becomes totally altered in its structure; that which was soft, becomes hard—so hard, that cut through with a knife, a creaking noise is heard; it is even harder than an ordinary tendon. Bands of this structure are found to cross the tumour in various directions. These bands are considered the distinctive characteristic of scirrhus or cancer.

The next variety of this disease has been called the encephaloid, or brain-like. It is first noticed in the form of a soft tumour, commonly seated next to the bone. It is exceedingly elastic to the touch, more so perhaps than flesh becomes under any other disease. It is not attended in the first instance, with much pain, but like other cancerous diseases, becomes exceedingly painful in its course. Every part in contact with this tumour, seems to perish. The bone, as I have repeatedly observed, becomes carious and brittle; after having amputated a leg affected with this disease, I have found the bone so brittle, that I was enabled to break it in my hands. The tumour at last bursts, forming an exceedingly offensive fungous mass, bleeding at the slightest touch; and many times without being touched at all, the blood bursts forth and flows in great

quantity. The disease has in such cases, been termed bloody fungus.

A third variety of cancer has obtained the name colloid or gummy. It exhibits when divided, cells filled with a tenacious matter resembling gum. It is less frequent I think, than other varieties, for it has never fallen under my notice. It is however equally destructive with the rest. And the individual, who is so unfortunate, as to become the subject of either of these diseases, has no chance to escape with life, except by the amputation of the limb or part on which it originates. And even when its excision, or amputation is performed at an early day, it is too common to see the disease returning again near the same, or on some other part of the body.

It may well be questioned, whether these formidable diseases should be classed together. They have in common a single feature, and that is, their destructive tendency. In other respects, their course is very different. But they are classed together from another reason which, if time shall verify, justifies us in considering them the same disease. When the disease, in one of its forms is extirpated, it is said that it frequently re-appears in one of the other forms. For instance, when a scirrhus breast is amputated, the encephaloid, or brain-like tumour may follow. Of this, however, I have not seen an instance.

All parts of the body are subject to the attacks of this disease; yet they are not equally subject. In the scirrhus form, I believe it is more common in the breast, about the lips, or tongue, and in the organs of generation. The brain-like variety usually takes its rise in parts deeper seated—near the bones. I have seen it originate on the bone of the arm, leg, hip, and in one instance, on the spine. Females are more subject to it than males, and it is more likely to occur in aged, than in young persons.

The cause of this disease is involved in impenetrable obscurity. The strange manner in which it converts parts of the body into a new and peculiar growth, has led to the supposition, that it might be of a parasitic character, and induced from without the body. No means however of avoiding or escaping such a thing, have been suggested, nor have we any good reason for supposing the disease infectious. Surgeons have handled such tumours in safety, time out of mind.

#### TREATMENT.

We need not dwell long on the treatment of cancer. A sin-

gle dispute rests over the question, ought these tumours on their first appearance, to be extirpated by the surgeon? Such a question would not have been raised without a very great number of failures of success from the excision. The experience which I have had, must be considered exceedingly small when compared with the reports from the great number of such cases presented in hospital practice. It is, therefore, with great doubt and misgiving, I would offer an opinion of my own on this question. And I premise this opinion with the statement, that the practice of letting such tumours alone, seems to be gaining ground. The danger of a relapse, or rather what is now considered almost the certainty of a relapse, has deterred surgeons from performing these operations. Still I must state, that from my own experience, I should decide in favor of performing this operation, whenever it can be perfectly accomplished. I have not found it return so often as one would be led to expect from the accounts we read. I could now point to numerous cases where I have performed the operation; in one where the breast of a female has been removed, now for thirty years, and she still lives in health. Several others I might mention of later date. Now in these cases, it is true the tumour might not have been cancerous; it had proved incurable, and as I thought, after excision was cancerous, but in this, I might have been deceived. It is a serious thing to abandon to certain death, a patient with a disease of this description. In many instances, the amputation is justified even for the temporary relief it offers. I have now under my direction a female, who from a disease of this kind in the breast, was reduced to the last extremity. A year ago, I performed the operation of excision, apprising her at the same time, that the disease would probably return. In six weeks after the operation, she was in a high state of health, and so remains at the present time, having for this year, escaped the torture of being destroyed by cancer. Yet it is right to state, that there are manifestations of a return of the disease near the seat it formerly occupied. Now this operation, although it may be called unsuccessful, was certainly worth performing.

As to the local applications which may be made to these diseases, they are such as may best promote the comfort of the patient. The caustic stimulants and other painful remedies which are too often applied, are mere cruelty. If the excision of the part is important, let it be done with a knife which will not give perhaps a hundredth part of the pain which the destruction of the same parts by caustics would give. When the

disease has approached its termination, and assumed its most hideous form, producing a torture indescribable which it is so apt to do, I have but one remedy to mention, and that is opium. Give it in the form of laudanum, morphine, or in pills of solid opium. These form, in my opinion, the only comfort left to persons in this unfortunate condition.

---

### EATING CANCER—LUPUS.

This disease has been a subject of dispute between medical men, from an early period. The question is, whether lupus, or eating cancer, as it is termed, is a distinct disease from carcinoma or true cancer; or whether it is the same disease assuming a different form. Most medical writers of this day, are of the opinion, that they are distinct diseases, and as such, we shall treat them.

Eating cancer can hardly be said to have an English name. The Latin name *noli me tangere* or touch me not, is no longer regarded as proper, for the idea, that any interference with the disease would prove injurious, is no longer entertained. The word *lupus* which signifies a wolf, is thought most descriptive of the ravenous or devouring character of the disease. The term eating cancer, I take from common parlance, and believe it will be generally understood. Between *lupus* and cancer, there is a very great resemblance. In the last stages, they become equally untractable; but while cancer is a disease of the whole system, and curable alone by general remedies, the *lupus* or eating cancer, of which we are speaking, is not only curable, but very often cured. And what is perhaps of most consequence, is that the cures are not effected by medicines administered internally, but by operations and local remedies. It is true that in the last stage of the disease, when it has penetrated too deeply to be removed by the knife of the surgeon, there is yet a hope of relief from general remedies, but this does not prove that the disease in the outset was a constitutional malady.

Eating cancer almost always makes its appearance on the face, most commonly on the nose or eyelids; although any part of the face is subject to its ravages. I have seen several cases of it on the mouth; the worst I ever witnessed, was where it made its appearance on the lower lip, extending down to the chin and involving the neck. This patient was a man of prop-



erty, and had every necessary attention ; and had the diseased mass removed by a surgical operation ; but without success.

Authors say, that this is a disease of youth, appearing most commonly from the age of six to sixteen ; and that it is rarely known to appear in a man of forty ; but my own experience is, that it appears later in life.

Lupus first makes its appearance as a small tubercle, in the tissue of the true skin, or immediately under it ; and sometimes in the mucous membranes of the mouth or nostrils. It gives no pain at first, but gradually rises in the skin, causing a violet, or dark color on the external surface. It continues to increase in size ; at first very slowly—so slow, that it is scarcely perceptible to the patient ; but as the disease advances, it assumes a more rapid progress, and sometimes terminates fatally in a few months. Generally speaking, a man suffering with lupus, will live several years, even in its progressing state. A man may have lupus and live a life time, and never suffer much injury from the disease. Sometimes even after it has progressed to a considerable extent, it has suddenly ceased, and the patient has recovered without ever having a return of the disease.

In its progress, lupus is exceedingly variable, sometimes producing only a slight dry scab, commonly on the side of the nose, and remaining for many years with scarcely any increase in its size or depth. In other instances, it produces a tumour, or as it has been termed tubercle, on the surface of which there forms a scab, which is after a time detached, leaving a raw, and sometimes bleeding surface. These scabs are renewed, from time to time, and always seem, when removed, to leave the ulcer larger than it was before. In this form, the disease is apt to attack the nose, and sometimes the tubercle is formed within the nostril. From whatever part it proceeds, its progress is destructive, destroying in its course, the skin and deeper seated parts. At length, as if tired of the slow progress made, in destroying thin layers or scabs, deep ulcers are formed from which portions of putrefying flesh are thrown off, leaving the most wide spread and frightful ulcerations, which can be conceived of. After a great deal of annoyance, but rarely of very acute pain, the patient's health gives way, and, under a slow process of hectic fever and wasting disease, he expires. The catastrophe is sometimes hastened, when the disease penetrates the trunks of some of the large arteries of the neck, producing hemorrhage and sudden death.

In a few rare cases, this disease presents itself in flat soft tubercles, growing to some size under the skin, before they break into ulcers. The sanious fluid which collects, forms closely adhering scabs, which seem to promote an extension of the ulceration. These ulcers frequently heal, producing great reputation for whatever remedy may have been used ; but they are liable to return, especially in persons who are liable to excesses, either in eating or drinking.

Lupus is said to be more common in females, than in males ; it is more likely to occur in those of a lymphatic temperament, in which the menstrual function is feebly performed. It is said to be more common in the country, than in towns ; and also more common among the laboring and poorer classes, than others.

#### TREATMENT.

The treatment of eating cancer may be divided into that which is local, and that which is general. It is true, the disease is most commonly entirely local, at the time of its commencement ; but, as the case advances, the constitution becomes so much involved, that no treatment could be considered sufficient, without due regard being had to the general health of the patient. It is, moreover, thought, that scrofula is a very frequent cause of this disease ; and, in a case so difficult to manage, this forms an additional reason for not overlooking the use of general remedies.

The first internal remedy which I shall mention, is iodine. Take of iodine twenty grains, dissolve in one ounce of alcohol. To a grown person, give twenty drops, twice a day. If the dose produces sneezing, or unpleasant sensations about the throat, or trembling, or giddiness, a less quantity may be given ; but the experiment should not be abandoned till at least one ounce vial, such as I have described, has been used. The hydriodate of potash is another preparation of this remedy, which has been much extolled in these cases. Take of hydriodate of potash, one drachm, dissolve in a vial with two ounces of water, and give twenty drops, twice a day. Either of these remedies, may be tried separately, in such doses as the patient may be found to bear with convenience ; and they should not be abandoned, till by a trial of several weeks, they are found to be ineffectual. Preparations of mercury have, in some cases, proved very beneficial. Corrosive sublimate is probably the most to be relied on, in these cases. Take of corrosive sublimate ten grains, dissolve it in one ounce of proof

spirit, or diluted alcohol. Give ten drops of this solution in water, twice a day. This remedy is to be persisted in for several weeks. If it produces nausea or pain in the stomach, the dose should be lessened. If symptoms of salivation appear, and the disease does not give way, this remedy should be abandoned. Arsenic has been found beneficial, in many cases. The most agreeable, and I will add, beneficial preparation of this remedy, is the arseniate of potash, or Fowler's solution. Of this remedy, give ten drops, three times a day. If it produces pain or sickness at the stomach, lessen the dose; but continue the remedy for two or three weeks, recollecting that it is to be laid aside if it produces dropsical swellings, paralysis, or other alarming symptoms. All these are remedies of a high degree of power over the constitution; they are recommended in doses, and under regulations, which are entirely safe. No certain rule can be assigned for a preference for one of these remedies over another, in any particular case. If one fails, another may succeed; and they should be tried alternately, without too much precipitation or haste.

Where patients become exhausted, and show symptoms of declining under the effects of this disease, remedies of a purely tonic and stimulating kind, become necessary. The preparations of iron, hold the first place amongst these remedies. Take of carbonate of iron two drachms, mix in mucilage of gum Arabic, or any other convenient vehicle, and form twenty-four pills; give from two to three of these pills each day. Other preparations of iron may be given, with equal advantage. Probably the muriated tincture is the best of these; from five to ten drops, in water, may be given, three times a day. Vegetable tonics are also proper. The compound tincture of gentian, in doses of a tea spoonful, twice a day; or other bitter vegetable remedies in common use, may be tried.

It is to be recollected, that the disease of which we are speaking, is exceedingly tedious; and that there are but few cases in which it threatens the immediate destruction of life. It is, therefore, proper to use all remedies employed in it, with great deliberation and care.

External remedies are allowed to be of more use, than internal, in lupus. Arsenic is probably the best of these. This powerful mineral, has been found in the most celebrated cancer ointments, and plasters, which have been vended by quackery from an early day. Sir Astley Cooper's ointment, composed of one drachm of white arsenic, one drachm of sulphur, and an ounce of simple ointment, rubbed well together,

may be applied in the form of a plaster, where the position of the ulcer admits of it. This plaster will be a painful application, but should be continued till a change in the surface it is applied to, is seen, and some considerable irritation produced. I do not advise the continuance of this remedy, till a great mass of flesh is destroyed. If the disease gives way to the remedy, it will be seen without proceeding so far with it; and it is to be recollected, that arsenic when externally applied, sometimes affects the system, as if it were taken internally. If the plaster produces great pain, it may be removed in a few hours, and one of simple ointment applied; but if, from the state of the surface at the time of the application, no great pain is felt, it may be worn a day, and then repeated, if necessary. When from the great loss of substance, it becomes desirable to save the parts as much as possible, a milder application of arsenic may be made. The remedy may be applied in solution, in the Fowler's solution, which has been spoken of, by wetting the raw surface with it, by means of a feather. Arsenic should be applied on the raw surface alone, and not in the form of powder, because its action cannot be properly regulated in that mode of application. Of the numerous other styptic remedies, which have been recommended in this disease, I prefer the preparations of copper. The carbonate of copper, or common verdigris, rubbed in cream, and daily applied with a feather, has, in my hands, seemed to effect a cure. A strong solution of sulphate of copper or blue stone, in water, is also a valuable remedy. Ten grains of the remedy may be dissolved in an ounce of water. A sudden and powerful impression, may be made by touching the raw surface with a solution of creasote in alcohol, in the proportions of a drachm of creasote in an ounce of alcohol; or with twenty grains of lunar caustic, dissolved in an ounce of water. These remedies may be applied with a feather or small mop, they have the advantage of producing only temporary pain, and not being followed by inflammation.

The remedies recommended for lupus, are chosen in reference to the absence of inflammation and fever, which commonly attend the disease. But there are many cases, in which the disease is attended with considerable pain, and more or less fever. In such cases, leeches should be applied to the part, or a mild laxative given, and a low regimen recommended, for a time. Plasters of simple ointment may be applied to the ulcers, and the case in all respects treated as a moderately inflamed sore.



It is not easy to say, when there is no hope of amendment in lupus ; for the disease proceeds rapidly for a time, and then ceases, and gets well ; or more frequently goes on to the end, in its destructive course. The general health of the patient should be carefully watched, and remedies applied where they may be necessary. There are many cases which are suspected of being connected with a scrofulous habit ; but I think such cases are by no means common, at the South.

Few cases of eating cancer are treated with remedies too mild. On the contrary, caustic solutions and stimulating ointments are used in quick succession, producing great aggravation of the pain, and rapid loss of substance. Such cases should have a fair trial of a milder course. The daily application of fine lint, wet with a weak solution of sugar of lead, or of water alone, should be tried. When the surface admits of it, a plaster of simple ointment may be tried. And, in every case, let it be borne in mind, that the caustic remedies hinder the process of healing, and should not be used too often, or in too quick succession, one after another.

---

### MUMPS—CYNANCHE PAROTIDEA.

The disease, known in this country by the name of Mumps, is known by a swelling of the glands at the angle of the jaws, attended with some pain and fever. It is a contagious disease, and affects the same person, but once during life. The disease is attended with but little danger, but is in some respects interesting.

There is nothing in the symptoms of mumps, which will at first, enable us to distinguish it from an attack of common inflammation. But this is not a matter of much consequence, as the disease is commonly mild, and will not be the worse for the use of any mild remedy for inflammation. The attack of mumps is attended with more or less fever. The patient complains, of some pain at the angle of the jaw, which will be increased in pressing the teeth together, and on examination considerable swelling will be seen immediately below the ears and extending across the throat. Sometimes the swelling attacks one side only, and ceases without extending any farther. The swelling and fever continue to increase for three or four days, after which they gradually subside, so that in eight or ten days the patient is usually well. This is the natural and

usual course of mumps, and the disease is so mild that no remedy is required in its treatment.

But mumps is not always, so mild a disease as we have represented it; and there are some peculiarities in it, which are curious and instructive. The first of these peculiarities which we shall notice, is that although it affects persons but once in their lives, an attack affecting one side of the throat only, does not protect the other side from a future attack. The fever which attends the first attack, does not hinder a fever with the second. It seems therefore that the disease consists in a peculiar inflammation of the salivary glands, and that these glands, must each, have it for itself. The next peculiarity of mumps is, that the inflammation sometimes recedes and is transferred to other glands—to the breast in females, and to the testicles in males. This inflammation, when it occurs in the breast, seems to be attended with relief to the throat and jaws, and passes off without doing any injury to the breast. But it is thought to be less favorable in the testicles, for these organs do not always escape permanent injury. I say, *not always*, because I read that the testicle is in some cases, enfeebled, and in others that it is absorbed and totally disappears after being inflamed and swelled from mumps. Now these accidents are so rare, that they have never occurred under my observation. I am therefore in the habit of telling my patients who are suffering in this way, that they have nothing to fear in the way of final injury to these organs. These swellings of the breasts, and testicles, never occur in young children, but only in those who are of an age for these organs to have commenced the growth and development of puberty. I am unable to assign the ages at which these accidents may occur, but think I am safe in saying that the older the patient may be who has mumps; the more danger he will be in, of its receding and becoming formidable. It is therefore best to expose children to the contagion when they are young.

#### TREATMENT.

In children under eleven, or twelve years of age, I have never seen mumps produce much fever, or cause very great inflammation. I have advised emollient poultices, applied warm, and have never had any reason to change this prescription. A poultice of light bread, boiled in water or milk; or of corn meal made into mush, answers every purpose. If there is much fever, a light cathartic should be given. A dose of

castor oil, or a Seidlitz powder, or of magnesia and rhubarb, will have sufficient activity.

Where the patient is grown, or nearly so, we are always to bear in mind the liability of this disease to fall on the breasts or testicles. If, in these cases, the fever is high, a brisk cathartic should be given. Cream tartar and jalap is probably the best; but salts and senna, or castor oil, will answer. The patient should remain still, and avoid any fatigue or effort of any kind.

If the disease falls on the breasts, they are to be treated with warm fomentations, by wringing flannels out of hot water, and applying them for an hour or more. Then apply a warm poultice, or if more convenient, dress with cabbage leaves. A similar mode of treatment is applicable to the testicles. Steam from hot water, or a hot brick thrown into cold water in a foot tub, over which the patient may sit, covered with a blanket, will answer very well. When the patient is removed, care is to be taken to support the inflamed part, and avoid the pain which its hanging loose will occasion. This is still to be remembered when the patient gets on his feet. A bandage to suspend the part should be worn for many days.

I have advised according to the experience I have had, and I believe according to the best authority, the application of warm, and not cold remedies, to the inflammation caused by mumps. I think there is a peculiarity in this inflammation. It never produces suppuration, even in the breasts, which are so liable to suppurate from other causes. I think I can say, that these applications are more agreeable and comforting, than those which are cold; they are, at any rate, perfectly safe. It may be well to add, that the pain in the testicles is sometimes very severe, and that a full dose of laudanum may be administered with great benefit.

On looking at what others have written on this disease, I find that it is represented as being more formidable than I have seen it. I shall, however, content myself with what has been said, leaving worse cases, if they do occur, to be treated with more active remedies, according to circumstances.

---

### ERYSIPELAS—SAINT ANTHONY'S FIRE.

This disease, though consisting in an inflammation of the skin, seldom penetrating to deeper organs, is, in many instances, truly formidable. It sometimes prevails as an epidemic,

attacking numerous persons about the same time ; and, in these cases, it is apt to be more severe. The attack, at such times, is almost always restricted to the face, extending far over the hairy scalp. At other times, and when there is nothing epidemic in its character, the disease occurs in certain individuals, who, from some unknown cause, become exposed to it. In these cases, it is apt to be milder, and to assume rather a chronic form, happening on any part of the body, and spreading sometimes to a very great distance.

The premonitory signs which usually precede an attack of erysipelas, are lethargy, and the usual attendants of such a state. The disease sets in with chilliness, frequent pulse, and all the symptoms of an approaching inflammatory disease. After many hours, a redness appears on the face, sometimes on the side of the nose, at others, on the eye brows. By this time, the disease has assumed symptoms more formidable ; the fever has become considerable ; pain in the limbs, and distressing headache, become also leading symptoms. In the worst cases, delirium comes on, even before the inflammation in the face has assumed its formidable appearance. With this state of things, we have vomiting, and, in some instances, diarrhoea. The redness and swelling of the face, makes rapid progress ; in twelve hours I have seen the face so distorted, and the dimensions of every feature so augmented, that the nearest friend could not recognise the person attacked. The pain now becomes more intense in the particular seat of the disease, in the skin, which is swollen to a thickness and extent hardly witnessed in any other disease. These symptoms go on increasing, for one or two days ; they remain at their height, for one or two days more ; and, after the fourth day, the inflammation generally subsides. The skin however has suffered all the consequences of a severe inflammation ; the epidermis is thrown off, and a greater part of the hair of the head, many times, drops out. Such is the course of an ordinary inflammatory erysipelas.

In other cases, the disease assumes still a greater malignity. From the first, the pulse becomes exceedingly rapid ; the strength fails ; the mind fails ; the inflammation, instead of the scarlet redness that might be expected, assumes a livid hue ; the mouth and tongue present all the appearance of the worst state of typhus. The tongue, especially, growing so black as to have acquired the name "black tongue" for this disease, when of late it has appeared at the North and West. This



form of the disease is exceedingly fatal, frequently carrying off its subject in three or four days.

Some individuals are peculiarly subject to an inflammation of this kind, differing, I have no doubt, in its remote cause, and, differing considerably in its symptoms. In these cases, the attack is every way more moderate. The disease may arise in any part of the body, extending more or less widely; the part becomes painful, the skin a little thickened, and the redness manifest, although not very intense. In this form, the disease spreads in all directions. The part into which it runs, is to go through the same term of time, and the same extent of inflammation, as that on which it first originated. The disease, in many cases, seems to give way at the point on which it originated; the inflammation and tenderness cease; the part becomes pale, and the tenderness is extended to the parts on which the disease has last seized. I have thus seen it pass almost over the whole body, consuming three or four weeks in the process, and being entirely well on the parts on which the inflammation first originated, long before the disease has come to a close.

In the epidemic disease, or that in which it becomes the disease of the season, or particular time, it is apt to be characterized by a sore throat, which does not, as I have observed, attend it at other times. Coma is also not an uncommon symptom, in these cases. It has been doubted whether the disease does not become contagious; but I have no evidence myself that it has ever been so.

The termination of this disease is generally by resolution. The inflammation gradually subsides, leaving the parts unbroken, and in a tolerable state of soundness. In worse cases, however, the disease tends to a destruction of parts. The skin, especially over the head, is sometimes elevated, and pus of an ill digested and thin glairy kind formed under it. It will extend far and wide, unless let out by a free opening in due time. In other instances, blisters filled with bloody serum, appear on the surface. Spots of mortification occur. This I have seen happen on the feet.

#### TREATMENT.

Very generally erysipelas is a highly inflammatory disease, and to be treated as such. On the first day, a copious bleeding from the arm is necessary. Cathartic medicines should also be given; and here it has been observed, that the neutral

salts, and other water discharging cathartics, are preferable to calomel. My preference, in cases of very high inflammation, is decidedly in favor of the antimonial mixture, given to produce vomiting, and afterwards to protract the nausea, according to the violence of the case. This course of treatment will scarcely be necessary longer than two or three days ; for, at that time, the disease has reached its height, and will decline, if too much damage has not already been done to the parts. At this stage, the color of the inflammation will change. It will become somewhat pale, the surrounding parts frequently become soft and doughy, resembling dropsy. Stimulants, especially carbonate of ammonia, are prescribed at this stage. I would have no hesitation in administering, in a moderate way, brandy and water.

In the malignant form of the disease, where the pulse becomes exceedingly feeble and rapid, where the powers seem to yield without a struggle, and the inflammation from the first assumes something of a livid hue, we are debarred even from the first the use of the evacuants we have referred to. Opium is I have no doubt in this case the best remedy. I should not hesitate to prescribe it, even in the face of any degree of delirium which might be present. Sulphate of quinine should also be used in this case. Take of quinine twenty grains, divide into six doses ; give one dose every four hours with twenty or thirty drops of laudanum in each dose. At the same time the parts should be kept warm, by hot fomentations or warmth in a dry form. For it is to be recollected that although we have before us, the skin in a state of great tumefaction, the circulation is in the mean time so feeble, inert, and failing, that every means of adding to its force, becomes necessary. Of these means, the application of heat in the way indicated, is by no means to be neglected.

As to the local remedies which may be applied to this inflammation, it is acknowledged that they have been less effectual for its relief than might have been expected. The inflammation will run its course and terminate at its time. The appearance of blisters, on the surface and sometimes the cracking of the skin, and the flowing of serum from such cracks, over the surface requires some particular attention ; for these blisters and these cracks may lead to spots of mortification and ulceration. Still physicians have been left to the simple application of absorbent powders to absorb such matter as may flow from these blisters, and to close such cracks as may form in the skin. Starch has been thought as good an application for this pur-

pose as any other. I have long been in the habit of accomplishing this purpose, by another means which I think much more effectual and neat. Take an ounce of lapis calaminaris, put it into four ounces of proof spirit, shake it well together, pour a portion of it into a saucer, and apply this to the inflamed surface with a feather. The spirit will soon evaporate, leaving the part covered with lapis calaminaris in a dry adherent form. This I have found the best protection to the skin in this disease. The formation of matter which sometimes occurs in this disease, should be met promptly by a free opening through the skin for its discharge. The spots of mortification which sometimes succeed, are to be treated in the same manner as if they had occurred from any other cause. The erysipelas is soon gone, and the mortification and mortified and dead slough, are to be thrown off by the powers of nature. Where the surface so affected is not large, there will be no danger; it will be thrown off in due time, and the patient recover.

In the chronic form of this disease to which allusion has been made, the disorder assumes a much lower grade. The fever which attends it, although inflammatory, is not violent. It should be treated with the antimonial mixture, given in the usual form from time to time. But I do not agree with the maxim which forbids the use of calomel in these cases. I think it should be used to the extent, that it can be used without producing considerable salivation—three or four grains a day may be given for four or five days in succession. If it is thought very desirable to avoid salivation, the remedy should be then suspended for a time.

---

### BOIL—FURUNCULUS.

The boil, or furunculus, as it has been termed by medical writers, is a very common and painful complaint of the skin. It is liable to occur to persons apparently in the highest health, and frequently takes place in succession, several happening about the same time, to be followed by others. They occur most frequently about the head and neck, or under the arms; but no part of the body is free from their attacks.

Although exceedingly painful, boils are attended with no danger; they proceed rather slowly to suppuration, and then readily heal. But there is a marked variety in different cases;

the most common and least painful, makes its appearance as a small tumour in the skin, which will be red from the first. This tumour may be as small as a pea, or as large as a walnut, and painful in proportion to its size. After six or eight days, it will be found to be soft, and contain matter ; but there will be no blister on the surface. If at a proper time, a small puncture is made into this species of boil with a lancet, the pus, by the application of very gentle pressure, will escape, and the place heal without leaving a scar. But there is a more painful boil, which is also very common. In this there is, from the first, a very prominent and tender point on the skin. Very soon, a small blister, sometimes a pustule with yellow matter, not larger than the head of a pin, is seen on the top. At the same time, on taking hold of the part, a considerable tumour will be felt, involving the skin and a portion of deeper seated tissue. This painful tumour progresses slowly to suppuration; and after a week or ten days, a small portion of matter may be made to escape through an opening made by the lancet, or through one or more small holes, which have been made by the disease. But the end is not yet ; there remains to be discharged, a considerable portion of dead matter, or as it has been termed a core. This will be detached after two or three days, or perhaps another week ; and after its discharge, the cavity left will soon be filled up and heal. This species of boil has a very great resemblance to the anthrax, or carbuncle, which we are yet to describe.

#### TREATMENT.

There are few diseases over which we have less control than boils. Emolient poultices, if they lessen the pain, are apt to protract the term of the suppuration ; and stimulating applications are probably more painful than beneficial. The division of the boil with a knife, is an operation so painful and unnecessarily barbarous, that I have never allowed myself to see it performed. This operation is I believe generally abandoned, and patients suffering with boils, are left to see them take their own course. I think there is some benefit in a plaster of wax and lard, spread on a very thin rag, and kept neatly applied to the part. Where the boil is on the face, or other part in which it is desirable to avoid its leaving a scar, care should be taken to discharge the matter by the smallest orifice which will answer. I have used a needle for this purpose, instead of a lancet. When the skin is perforated with several



holes, the surface should still not be divided with a lancet, but the core allowed to soften, so that it may pass out through the smallest orifice. The scar will, by this means, be much smaller.

---

### CARBUNCLE—ANTHRAX.

This disease has been termed a gigantic boil. The resemblance it bears to a common boil, is very great ; but it is a disease far more formidable. It is less subject to attack various parts of the body ; I have never seen it, except on the nape of the neck, between the shoulders, or on the abdomen. It attacks principally the aged, and the corpulent ; but does not confine itself to the rich and well fed.

On its first appearance, anthrax is a broad flat tumour, not readily discriminated from Saint Anthony's fire. In a few days, however, the extreme hardness, and fiery redness of the part, will make its nature sufficiently obvious. It will pursue its own course to suppuration, which sometimes requires two or three weeks. At the end of this time, several small openings will be found, through which an ill digested pus will escape. The quantity of matter discharged, is very small, in proportion to the tumour ; but, by degrees, the skin will give way, and expose an enormous core, or slough, at the bottom of the ulcer ; sometimes three or four inches in diameter. This separates by a slow and tedious process, after which the parts unite and are healed.

The general disorder of the system, which attends anthrax, corresponds with its extent and position. During the first days, the fever is considerable, and the pain very great. As it progresses, the fever may be less, but the pain and irritation are intolerable.

### TREATMENT.

The treatment of anthrax should correspond with the general symptoms present. During the first two or three days, some gentle cathartic may be administered ; but the violence of the pain is to be met by a proper use of opium. Sixty drops of laudanum at night, or once in twelve hours, if the pain is extreme. When the strength of the patient seems to fail, there should be no hesitation in giving stimulants and tonics for his support. Quinine has been recommended ; and, for a few days, I should think it the best remedy. But if the case con-

tinues, other stimulants and tonics deserve a preference. The best of these is found in any kind of good spirits ; but if the patient prefers it, there will be no objection to the use of Port wine, or even porter.

The local treatment of this disease, differs but little from that of the common boil. During the first stage, I know nothing better than a common plaster of simple ointment. After a considerable portion of the skin has given way, and the dead slough still adheres, tincture of myrrh, or other stimulating applications, may be used. A strong solution of lunar caustic, may be applied once or twice, These and other exciting remedies, may promote the throwing off, of the dead slough ; but the disease will be found at last, to require its own time.

Of late, it is advised, to divide the anthrax into four quarters, by cutting down through it with a knife. The operation is said to be useless, unless the tumour is thoroughly divided. This cruel operation requires the sanction of time and experience. I do not advise it.

---

### SCURVY—SCORBUTUS.

There is some reason for believing, that the remote causes of disease are undergoing a gradual change ; and that while new diseases are from time to time making their appearance, old ones are losing their virulence, or disappearing. The disease under consideration gives countenance to this remark. Who has not read of the havoc from scurvy, in besieged cities, and in ships on distant voyages ? Who has forgotten the siege of Thorn, where thousands perished from this disease ; or the fearful accounts of voyages in high latitudes, where the tedious winter nights were rendered horrible by the despair and death arising from scurvy. At the present time, this disease is looked on with less apprehension, for its ravages are stayed. The mode of preventing and curing it, is better understood ; and I think, it is less apt than formerly, to make its appearance. It is no longer, so far as I know, a fatal disease in any country ; but it is still frequently seen, and is a proper object of medical advice.

#### CAUSES.

The history of scurvy is full of interest. It was at no remote period a formidable disease ; and, at sea, more dreaded

than the elements, or the enemies of navigators. It is no longer a just cause of alarm, either at sea or on land. Its causes are in a great degree removed; and when it does occur, we have remedies in which the greatest reliance is placed. The causes to which scurvy has been attributed, are principally these. Bad and unsound food, want of cleanliness, damp and cold apartments and clothing, despondency, idleness or excess of fatigue, want of vegetable food, and, in fine, all the hardships of oppressive governments, and destitution. The progress of civilization has lessened or removed these causes. The clothing of mankind is more than doubled; even the poor have changes equal to all their necessities. Vegetable food is now provided for all, and the comfort of the soldier and the sailor is no longer neglected. Medical writers say, that in consequence of these great improvements, scurvy is no longer a plague upon the earth. A few scattering cases are met with, but they excite no fear, and produce little danger. It may be true, that these great changes have produced the effects attributed to them; but I suspect there lies beyond that a deeper cause. I think the causes which formerly gave rise to scurvy, have grown weak from some unknown change in the remote or natural causes. The reforms spoken of are great; but they are not so universal as to hinder the appearance of scurvy on many occasions, were it as ready to occur now as formerly. I think the disease is slowly ceasing upon the earth.

## DESCRIPTION.

Indolent and corpulent persons are most subject to scurvy. The slightest cases are attended with depression of spirits; and more violent ones produce the deepest despondency. The first appearance of the disease, is a softening of the gums, with a breath extremely fetid and disagreeable. Blood oozes from the gums on the slightest injury, and the teeth become loose and ready to fall out. If the case grows worse, pains begin to be felt in the limbs, and purple spots make their appearance on many parts of the body. The countenance becomes sad, the face pale and bloated, and the pulse slow and feeble. Tumours now make their appearance like bloody contusions, and finally, in extreme cases; burst, with considerable discharge of blood. These symptoms threaten speedy dissolution; but in the two cases in which I have witnessed them, they were arrested by remedies. I have never witnessed a death from scurvy.

The first thing to consider in the treatment of scurvy, is, the removal of all the remote causes of the disease. The mind should be buoyant, and the person happy ; but these requisites can only be approached by suitable regulations. They are not easily supplied to convicts, amongst whom I have oftenest seen the disease. Negro slaves are at least as free from it as their owners. But there are hopes for the slave and the convict ; and, with a little judgment, the state of mind suited to a speedy recovery from scurvy, may be induced, even in these subjects of the disease. The next object is to provide for a comfortable, warm and dry residence, with sufficient and clean clothing. The next requisite is proper food. This should be, in part at least, of fresh meats, and a sufficient portion of vegetables. The frequent occurrence of the disease at sea, has fixed on salted meats and dry bread, as the cause of scurvy. But every day's observation shews, that these are not of themselves a common cause of scurvy. The slaves of the South are fed on rations of salted meat and bread. They eat very little vegetable food, because they are careless and do not provide it. The abundant exercise in the open air, which their occupation supplies, hinders scurvy. The weight of authority, however, is in favor of a full allowance of vegetable food. There is no benefit in abstaining from salt. It should be added in reasonable quantity to the food taken. The great faith which was formerly given to certain vegetables as food, has not been maintained by experience. The common garden vegetables, now almost universally used, answer every expectation.

#### REMEDIES.

Do not smile at the simple prescription I offer for a formidable disease. Limes, oranges, lemons, and shaddocks, contain in them the sole remedy now used for the prevention and cure of scurvy. These fruits contain the citric acid, and probably owe to this their curative power in scurvy. An ounce of lime juice, with sufficient sugar and water to render it agreeable, is a dose, and may be taken three or four times a day. If fresh limes or lemons are at hand, they may be used to about the same extent. The shaddock affords a sour juice, which may be obtained from the fruit in any convenient way ; and the sweet orange which supplies a juice sufficiently palatable of itself, has been found equal in all respects to any of the rest. These fruits abound in warm climates, and afford the means of safety to persons exposed to the causes



of scurvy, all over the world. Lime juice is considered an essential article of sea stores, and armies ought not to be without it, especially in high latitudes. This remedy has by its unquestionable power in curing scurvy, driven from use, every other; and it is amusing to see able writers defending it against the doubts raised by certain chemical experiments, which seem to show, that lime juice ought not to cure this disease. Many trials have been made with other acids, especially the sulphuric; but all these seem to have increased the conviction, that acids are of very little service, except they are of the right kind. The lemon, the lime, the shaddock, and the orange, furnish the true and only specific for scurvy.

Certain symptoms of scurvy require particular treatment. Costiveness is a common attendant on the disease. This should be removed by any gentle cathartic. I object to calomel from having seen it excite a violent salivation. But I have seen it used without any injury of this kind; and think there will be no great danger in using it as a component part of a cathartic pill. But the food of the patient should be so full of vegetable matter of some kind, as to keep his bowels sufficiently open, without medicines. The local disorder of the gums, is some times considerable. A tooth powder composed of equal parts of alum and myrrh, should be used, daily, with a brush. Where the gums are very tender, I have seen them rubbed with fine salt, by means of the finger alone, with immediate benefit. The blotches of purple on the skin, call for no particular remedy. They give way under the general treatment.

---

### PURPLES—PURPURA.

Purpura is seldom a disease of much danger, but is frequently present in persons who enjoy tolerable health. It is known by the blue spots it presents on the skin, and resembles, in the strictest sense, slight bruises, as if the skin had been pinched. In some instances, it appears in the mouth or eyes, spreading over the whites of the eyes, or in-side of the lips, with reddish bloodshot spots. Each spot seems to be the work of a limited hemorrhage, from the bursting of some small vessel under the skin. By degrees these spots become pale, clouded and greenish, and disappear to be followed by others. I have met with two cases, in which this was a formidable disease. It occurred in children, who were affected with it from

birth. Their limbs were almost always disfigured with purple, or greenish blotches; and it often appeared that such spots would arise from the pressure of the fingers, in lifting the child. The slightest wound would give rise to a dangerous hemorrhage, and one of these patients was finally destroyed, by a slight blow on its forehead, which did not break the skin. In this instance, a fatal hemorrhage was brought on by a slight contusion, the blood flowing under the skin, and producing an enormous dark tumor, closing the eyes, descending along the face and neck to the body, and producing the most horrible deformity I ever beheld. The patient survived the injury only a few days. A second child, in the same family, had a similar affection; but by careful management was preserved during its early years, and the disease finally disappeared.

This disease bears so much resemblance to scurvy, that it becomes of some consequence to be able to discriminate between them. The principal difference manifests itself in the state of the gums. Purpura is not attended with any disorder of the gums, while in scurvy, spongy gums are almost always present.

#### TREATMENT.

In most cases of purples, there appears to be scarcely any disease present; but, in some instances, there is a degree of fever, attended with great sluggishness, while the disease continues. In such cases, brisk cathartic medicines, such as rhubarb and magnesia, or cream of tartar and jalap, will be useful. If the blotches increase, and the patient appears feverish, bloodletting may be practiced. Leeches are not to be applied in such cases; for the bites of those animals, might produce a hemorrhage which could not be controlled. In other respects, this disease is to be treated on general principles; and the low, protracted disease met with the alteratives and tonics, which are found useful in similar disorders. It has been observed, that mercury, which is injurious in scurvy, has been found a valuable remedy in purpura. It may be given till a slight salivation is brought on. If the patient is grown, give a grain of calomel, twice a day, till a slight salivation appears. I have seen the best results from travelling, and the temporary use of mineral water. The chalybeate waters are to be preferred, in these cases.

## NIGHT-MARE—INCUBUS.

Every one will expect to find night-mare treated of in this work ; but I am by no means certain, that it has an existence independent of other disorders. The most common cause of this disease is indigestion, particularly, a hearty supper remaining undigested in the stomach of a feeble, nervous person. Certain disorders of the heart are thought also to produce it ; but these cases are not so common.

The attack of incubus, commonly takes place soon after the subject of it falls to sleep. Slight cases produce a sudden starting from sleep, with a sensation of falling, or of the attack of some dangerous animal—a rabid dog, or a reptile. In worse cases, the patient lying on his back, dreams or thinks, he feels on his breast a heavy weight, or horrible monster, which he is unable to rise with, or throw off. His struggles become obvious to any one who may be looking on ; and he is relieved by a sudden shake to arouse and awake him. If there is no friendly hand to do this, he will in a short time awake in great anxiety, and much exhausted. If he composes himself to rest, he is in danger of falling again into the same state, and thus passing a great part of the night in this kind of disturbance. The variety of symptoms in different cases is infinite, and need not be described.

The treatment of night-mare, is to be directed to the removal of its remote causes. Slight cases are hardly a subject of medical advice. When the attacks are so distressing, as to be a cause of special fear to the patient, he will demand a remedy. The first prescription, is the avoidance of heavy suppers ; or what is better, a total abstinence from that meal. If the patient has indigestion, he will seek relief, from the remedies for that disease.

---

## MILK SICKNESS—TREMBLES.

I have never met with this disorder, and should judge from the authorities which I have been enabled to consult, that it is very little understood. It is said to be a disease of cattle, and to be communicated to men who eat their flesh, drink their milk, or eat the butter made from such milk. The animal giving the milk is not always sick ; but in some cases, is soon afterwards seen to tremble and to sink down and die. The disease, as it appears in men, is to be ranked amongst those arising from poisonous food.

The cause of milk sickness, is as yet undiscovered. It is a disease of autumn, and sometimes of summer, but I believe never occurs in winter or spring. It has, without sufficient proof, been charged to the effect of various plants eaten by the cattle. It prevails in certain districts of country, especially in parts of Alabama, Kentucky, and Indiana. It is much feared in certain settlements of the mountainous districts of Georgia and Tennessee; and I have been shewn several localities, where its fatal effects have been felt. These places have all been situated in the rich valleys of rivers, or in the narrow valleys near high mountains. A gentleman residing in one of these places, said to me that his fear of the disease was such, that in the summer and autumn, he dared not taste either milk, butter, or beef. He informed me that on one occasion, he attempted to drive his cattle; they became unmanageable, and ran till they were heated, and very much fatigued. Suddenly, above half of the drove were taken with trembling, and several died in a few hours. I was shewn a house in which two persons died from taking a portion of the milk of a cow thus diseased; and another, in which three had experienced the same fate. Still there is some incredulity, in regard to the existence of the disease in question, some authors attributing the diseases which have been charged to milk or beef, to the malaria of a sickly locality. Doctor Drake has been quoted as authority, that the disease disappears in countries which are reduced to cultivation. Judging as impartially as I can, from all the facts which I have seen stated on credible authority, I think there can be no doubt of the existence of the disease, which has been called milk sickness; and that it affects cattle, and men who eat of their milk, or butter, or flesh.

The disease produced by eating of the milk, butter, or flesh, of the cow affected with it, is described as a fever, sometimes attended with vomiting and purging, and terminating in death in a few days; in other instances, the case is protracted to many weeks of duration, leaving great nervous prostration, which is scarcely ever entirely gotten rid of; in every case, there is a tremor and prostration of strength from the first, which is so much greater than is usual in other diseases, that it is thought the distinctive feature of this.

A few words will suffice for the treatment of this disease. If it is discovered before the food, which gives rise to it, is digested, a brisk emetic should be given. Twenty or thirty grains of ipecac will answer. This should be followed by a mild cathartic—calcined magnesia, with a portion of rhubarb,



if the patient does not seem too much exhausted to bear its action. If the attack is with vomiting, the magnesia alone should be given ; and after a free evacuation of the bowels, whatever remedies may have been given, give sixty drops of laudanum. After this, the patient is to be sustained by such stimulants and tonics, as the case may seem to require. If the strength is prostrated at first, and the disease seems to threaten a speedy dissolution of the patient, he is to be supported with brandy and other strong stimulants. If the progress of the disease is slow, a milder course will be proper. Mild stimulants, such as wine or porter, or vegetable bitters, with spices, will be proper. A decoction of cherry-tree bark, or of gentian, will be the best of these remedies.

---

## BITES OF SERPENTS AND SPIDERS.

### STINGS OF INSECTS.

These injuries are so rare in cultivated countries, that little regard is paid to them by medical writers. But there are yet many parts of the South and West, in which poisonous reptiles and insects are too common and pernicious, to justify their being overlooked.

Very few of the great variety of serpents in the United States, are poisonous. At the South and West, I know of but two genera of poisonous snakes—the rattle-snake, *crotalus horridus*, and the viper or coluber. Of the rattle-snake, there are three species, which are universally known from other reptiles by the rattle on their tails. But the viper or coluber is not so readily distinguished. Of this, there are four species, which are known to be poisonous ; the common viper, and the copper-head, which inhabit the high lands, and the brown or blunt tailed moccasin, and the cotton mouth ; both of which are amphibious, inhabiting small streams and low grounds. The bite of all other serpents found in the Southern States, is, so far as I know, not more poisonous than the bite of a rat. I fully concur with Catesby in the opinion that the danger from the bite of these reptiles, is very much in proportion to their size. I have never known death to happen from the bite of a small serpent of any kind. The water snake and the viper are sometimes found of considerable size ; and I have heard of one or two instances of death

in children, bitten by these serpents; but the ground rattle-snake, or small variety of that species, has never, as far as I know, inflicted a fatal wound on even a small child. The larger varieties of rattle-snake, become dangerous from the time they are half grown. When they are three feet or upwards in length, I consider their bite, when it is fully inflicted, certainly fatal. There are instances in which persons have not died, though bitten by these large snakes; but, so far as I have known the bite was but partially effected, one tooth only taking effect, or other imperfection in the bite itself. General Coffee, who resided for many years in one of our thinly peopled counties, where this species of snake abounded, informed me that he had known many cases of persons bitten by the larger variety of rattle-snake, every one of whom was destroyed. When the size of these monsters is considered, and it is seen that their teeth and sack of poison at their roots, are in due proportion, we cannot be surprised that their bite is fatal. No one can live, into whose flesh so great a quantity of poison is thrown.

#### REMEDIES FOR SNAKE BITE.

The sudden effect produced by the poison introduced into the flesh by the bite of a snake, renders the use of remedies difficult or unavailing. The bite of a large rattle-snake frequently produces death in one hour. It produces intolerable pain in a moment, with sickness at the stomach, blindness, pain in the region of the heart, and death. A hunter bitten by one, had steadiness to level his rifle and fire with effect; but he was found dead in less than a hundred yards of the spot. If the patient lives a few hours, violent swelling of the limb ensues—if he survives a day, a violent fever follows; and this sometimes destroys life, after an agony of three or four days. It is for these awful cases, we are in want of remedies. Almost every herb in the field, has been celebrated for the cure of snake bites. None of them are entitled to the name of remedies. They neither destroy the poison, nor remove any of its ill effects. The first thing to be attempted, is, to draw out the poison from the wound. Not a moment is to be lost—let the part be washed, and apply suction, either with a cupping instrument, or the mouth of a friend. This operation has been proved to be safe. If a toe or finger is the only part injured, and the serpent be of the largest size, let the toe or finger be instantly cut off. But if much time is lost, these operations be-

come useless. The swelling of the part is not a cause of danger. It has been recommended to bathe the wound and swelling with water of ammonia, or common harts horn. I know nothing better ; but have not a great deal of faith in this. A volatile liniment made of equal parts of sweet oil and water of ammonia, has been used with apparent advantage. I have tried it, and was satisfied that it afforded relief. Where the swelling is considerable, after the fever has abated, I think hot applications are best. Cloths dipped into warm brandy and water, may be applied for some hours. We are as much at a loss for internal remedies. Sweet oil has lately been recommended ; but I do not know any thing which has any special power in these cases. If the patient appeared to be sinking soon after the wound was inflicted, I should have strong hope from diffusible stimulants. I should prescribe laudanum and brandy, in full doses, to such patients. And should a fever arise, as I have no doubt it has sometimes happened, I should give such depleting remedies as its grade seemed to warrant. Give an emetic, and follow it with a cathartic. These cases are to be treated on general principles—no nostrums have been discovered for them. A few words may be added on the remedies for the bites of smaller reptiles. I have said that these bites are not dangerous. They get well of themselves. But the pain which attends them is very great, and the swelling, and injury of the limb sometimes permanent. I have seen several limbs, which, from this cause, were permanently swollen, and often sore and painful. These cases commonly show their worst symptoms in a few hours. The pain is at its worst in a few minutes ; and the swelling at its height in a few hours. A comparative degree of ease follows the cessation of the swelling ; and I have seen a child sleep soundly in two hours after being bitten by a ground rattle-snake. The local injury is the worst part of these cases. I have thought that the bite of the water snake was most likely to produce permanent injury to the limb. It is not uncommon for the part in which the bite was inflicted, to run into a state of mortification, giving rise to extensive sloughing and loss of substance. But whatever injury follows, is to be treated according to the symptoms, without any regard to the cause from which it has originated. There is no evidence that any portion of the poison remains in the system. The injury it has done may remain ; and I have no knowledge of any special remedy for it.

## BITES OF SPIDERS.

I have seen only two instances of injury from the bites of spiders. Of the great variety of these wonderful creatures, there are, so far as I know, very few which are poisonous. Infesting every house, every tree, every bush, and almost every plant, we go safely by night or day through their airy habitations, with but little fear of injury. In the two instances which I have seen, of dangerous symptoms from the bites of spiders, the insects were seen, and I think there is some certainty, that the description I received of them is correct. We have in our fields and woods a variety of the spider, whose body is of a shining black, with a bright red spot on the abdomen. It is about the size of a wild grape, or swan shot; with slender legs, slow motion, and very feeble. It spins its web in the open air, from one bush to another, but without any thing remarkable in its form or strength. This variety of spider is not uncommon, and was described to me by those who had been bitten, in language not to be mistaken. The feebleness, and slow motion of this spider, would render it powerless for harm, if no accident should bring it in contact with our persons. In both the cases in which I witnessed the danger of the wounds they could inflict, they were by accident thrown into the bosom. My patients were both laborers, strong young negro men, laboring in the field in sultry weather. They were no sooner bitten, than the insects were destroyed; but I took some pains to ascertain the kind of spider by which they had been bitten, and they each gave me the same account, agreeing fully with the description I have given.

The symptoms produced by the bites of these spiders, were alarming, violent pain at the pit of the stomach, oppressed and difficult breathing, with spasms of the muscles of the abdomen and back, so permanent and rigid, that the body could scarcely be bent. The pain in the part bitten was slight, and the total absence of swelling or tooth marks, rendered it impracticable to ascertain the exact spot on which the injury had been inflicted. The symptoms of pain at the pit of the stomach, and difficult breathing, came on in a few minutes after the bite. One of my patients was bitten, or it may be, stung, on the back, and the other on the side. I saw each of them, in about two hours after the accident, and found their symptoms as I thought very alarming.



## TREATMENT.

When called to my first patient laboring under the pain of being bitten by a spider, the medical reviews and newspapers were teeming with the evidences that ammonia or hartshorn, was the sovereign remedy for bites of serpents, stings of insects, and indeed for all animal poisons. Time has not confirmed these high claims; but I gave my patient a tea spoonful of water of ammonia as soon as possible. Not finding him much better in half an hour, I commenced to cauterise the wound with lunar caustic. Not being able to find the exact spot, I took a spot as large as a dollar, and commenced rubbing it with solid caustic, keeping the part moist so as to dissolve the remedy. This process was continued till it was evident an eschar would form. This required half an hour or more; and my patient declared himself much better. By the next morning all symptoms of injury had disappeared; and as soon as the wound from the caustic healed, he was well. It was only a year or two till the second case happened; and it was treated in the same way, with the same result. In the application of the caustic in the second case, ten or fifteen grains of the remedy, in powder, were mixed with powdered gum Arabic, and made into paste with a few drops of water. A plaster over this, confined it to the part, and it produced an eschar, which resulted in a shallow ulcer. It healed without difficulty.

I was very much struck with the sudden relief given by these remedies, and attributed the cure to the caustic application. It requires more experience to decide the question; but till more is known of the matter, I do not hesitate to recommend the same treatment to others, who may be bitten by spiders. If the caustic were not at hand, I should apply a rag dipped in boiling water to produce blistering, or any other efficient and powerful caustic.

---

STINGS OF WASPS, BEES &c.

We have many insects that are furnished with stings which they use with great readiness, inflicting very painful wounds. The most common of these insects are wasps, hornets, bees and ants. The hornet is the largest and most daring of these insects, and produces a wound extremely painful; and if a

great number should inflict their stings at the same time, there might be danger of death. I have known a person who incautiously approached too near a nest of these insects, and was stung on the face by three or four of them. His face was suddenly so swollen, that his eyes were closed ; and he could not have found the way home without the aid of another. In another instance, a man was stung on the ball of the eye. He was frantic with pain for about two hours, when the eye bursted affording him some relief, but destroying the sight. Wasps and bees are apt to be nearer to the residence of men, and their stings are oftener felt, than those of other insects. The wounds they inflict are painful, but not often dangerous. The only source of danger, is from the sting of a great number ; or its happening near the throat, producing a swelling which may impede respiration. I have seen a lady very near falling a victim in this way, from the sting of a single bee, near the angle of the jaw.

#### REMEDIES.

Judging from their effects, I should conclude that the poison of the viper, the rattle snake, and all other poisonous serpents is the same as that which is thrown into the flesh by stinging insects. The difference is in the quantity of the poison. The symptoms produced are the same—instant and violent pain, with a speedy swelling of the part affected, and constitutional symptom corresponding with the danger. I have therefore but little to add to what has been said of the treatment of the bites of poisonous serpents. I have thought bathing the part with spirit of camphor, or water of ammonia, beneficial ; and I recommend these remedies. I have recommended cupping, or suction, in cases of bites from serpents. The same purpose is accomplished by placing over the place at which the sting has entered, a key, or other small hollow tube, and pressing it down violently on the skin. On examining, after a minute or two, a very small drop of transparent fluid will be found to have flowed from the wound. Whether this is serum from the blood, or the poison which has been thrown in by the insect, I have not ascertained. But if such an operation is performed on the sting of an insect within a few minutes of the time it is inflicted, no swelling will follow, and the pain will cease in a few minutes. Great benefit would arise from a similar mode of treatment to the bites of serpents ; but it should be done immediately, or it will be of no use.

## SALIVATION—PTYALISM.

Salivation is of two kinds, the one arising in the natural course of several disorders, and the other brought on by the use of certain medicines. It consists in a profuse flow of saliva. This profuse flow of saliva arises in very different states of the system: that which is produced by mercury, is always attended with an inflamed state of the salivary glands, situated near the angles of the jaws, and under the tongue. But there is a profusion of saliva in many cases in which this inflamed state does not exist: for instance, tobacco taken into the mouth, will cause a very profuse flow of saliva, when there is no evidence of any excitement, or inflammation of the glands. Certain disorders of the stomach seem to produce the same effect: when there is nausea, there is very often a profuse flow of saliva. The disorders of which we are about to take notice, relate exclusively to the salivation which is attended with inflammatory action of the salivary glands, and adjoining organs.

The spontaneous salivation which is most frequently seen, occurs in infants during the teething stage. As soon as the tooth has made some growth, and long before it has made its appearance above the gums, an irritation of the mouth and adjoining organs becomes manifest. The glands, especially about the angles of the jaws, are more or less swollen, and a profuse discharge of saliva takes place. At any period of life, any disorder that produces a similar excitement of these glands, will produce also a profuse salivation. When this discharge continues for a considerable length of time, it produces great irritation of the lining membrane of the mouth, and of the tongue. Aphthous sores make their appearance, are exceedingly tender, and a great aggravation to the sufferings of the patient. This occurs, as well in grown persons as in children. In almost every instance, the disease which has given rise to this species of salivation, is manifest. In the teething child, it is with great certainty referred to teething: in grown persons, the glands will be seen to be affected, but it is not always in our power to point out the remote cause.

The remedies for this species of salivation are such, as tend to remove or limit the effect of the remote cause. In teething children, the treatment includes all the remedies for the disorders of the bowels, fever and teething which belong to that condition: they need not be repeated here, except so far as to remark, that the aphthous sores which attend this species of sali-

vation, are quickly removed by the application of lunar caustic, or nitrate of silver. If the case is at all serious, a dose of calomel should be given, and great reliance may be placed on its beneficial effects. Very little need be added in reference to this disorder when it occurs in grown persons. The removal of irritation, whether it be defective teeth, ulceration of the neighboring parts, or any thing of the kind, should be first accomplished, and the salivation will speedily disappear.

It has not occurred to me to see a profuse salivation, with inflammatory symptoms brought on by the use of any remedy except mercury; yet we read that iodine, arsenic, antimony, and several other articles, when used for a length of time, produce the same effect. The salivation brought on by mercury makes its appearance, first, by a tenderness of the teeth, especially if any of them are defective, and their apparent elevation, or spring, as it were, from the socket. The teeth appear to rise above their natural positions: at the same time the gums become soft, the breath fetid, the patient is annoyed with a disagreeable copper taste in the mouth, and the glands of the jaws take on an inflammatory action. The flow of saliva depends upon the extent of this inflammation of the salivary glands. It is sometimes very profuse, extending to three or four quarts in twenty-four hours. This extreme degree of inflammation is, of itself, a formidable disorder, producing great swelling about the angles of the jaws, enlargement of the tongue, and a clenched state of the jaws, leaving the patient scarcely any capacity to open them. As the disorder goes on, aphthous spots make their appearance on the tongue, and on the lining membrane of the mouth. These very often become considerable sores, are exceedingly tender, and a great aggravation to the patient's sufferings. When this state of things occurs to young persons, especially to children from seven to fifteen years of age, great damage is sometimes done to the neighboring parts: the mortification sometimes involves the gums, the lips, and parts of the face, and even extends to the jaw bone, producing caries, by which in many instances large portions of the bone are destroyed. Great loss of substance frequently ensues, and in many instances a frightful deformity of the face is the result. These cases give rise to the necessity of a tedious surgical treatment, many times requiring serious operations for the removal of adhesions, which are formed in the course of the cure. These accidents are by no means so frequent as they formerly were: the use of mercury is better understood, and the article, I have no doubt, is used with much greater benefit. I should have ob-



served that children under two years of age, are not liable to these accidents. At any rate I have never known an instance of this species of injury from mercury in a person of that age.

## REMEDIES.

When the mercurial salivation is fairly established, it is very little under the control of remedies. Of late, we are advised to give tincture of iodine, in doses of ten drops, three times a day : of this I have but little experience, and do not rely on it. The remedies which I have used are principally cathartics. These should be such as promote free, watery discharges ; cream of tartar and jalap, if the patient is manifestly strong enough to bear the use of it ; if not Epsom salts or Seidlitz powders may be substituted. It was formerly believed that sulphur had a special power in arresting salivation ! This opinion has lost ground ; but still I know no better cathartic in ordinary cases, than cream of tartar and sulphur. These remedies constitute about the whole internal medicines which I am in the habit of using. Where the case has lasted a considerable time, and mortification has taken place in any part of the face, I think the addition of stimulants and tonics become necessary. Quinine is in my opinion the principal of these : from ten to twenty grains may be given in the course of twenty-four hours. To this, such doses of laudanum may be added as the irritation of the case, and the restlessness of the patient, seem to demand. The aphthous sores which appear in the mouth, are to be treated with such styptic washes and astringent applications as are used in such cases. During the first week, I know no better application than strong tea, made of about twice the strength of that which we would use for nourishment. Such tea, to which a small portion of alum may be added, is also a useful gargle where the pain is very great : and this will be found very commonly the case. Laudanum may be added to these gargles : a tea spoonful of laudanum added to a tea cup full of tea, forms a very good gargle.—A decoction of red oak bark will be found one of the best remedies of this description, and may be used in the same manner, advised for the teas above spoken of. But the patient should not be too often disturbed with remedies ; even the use of a gargle is attended with several hours of severe pain : and I think there is little benefit in using it more than once in twenty-four hours. The time which it takes to get rid of a high degree of salivation, varies in different cases : much improvement cannot be looked for in less than

ten days, and many times the disorder continues with great irritation twice this length of time. Few disorders require more patience in the patient, or his nurses, than this: the consolation is, that the remedy itself is commonly beneficial, and that the salivation will pass off, leaving the patient in better health than it found him.

I should have mentioned the proper regimen in these cases. A low, and fluid aliment is best and most convenient, during the first stage of the disorder. When the inflammation subsides, articles of more nutritive properties are proper.

---

### NETTLERASH—MAD ITCH—URTICARIA.

It is always pleasing to me to be able to follow the authorities which have most credit in the medical profession. In the disorder of which we are about to speak, I feel wholly unable to follow these guides; for in following these, I should not only render the subject exceedingly intricate, but I fear go far astray from the true path pointed out by nature. I shall describe urticaria as I have seen and experienced it.

Nettlerash is known by the stinging pain it produces on the skin, resembling very closely that produced by the sting of nettles, and by the wales it produces. The disease may be divided into two varieties, the chronic and acute. In the acute form, the disease commonly makes its appearance after the patient has risen from bed, and been exposed to the cool air of the morning. If by any accident he is placed by a crack in the wall or window, through which a stream of cold air may operate on his neck or breast, the disease will make its appearance on the spot so affected. An intense itching is the first symptom, and this will presently spread down the arms or over the body. It will soon produce an evident swelling in the skin, which may be felt on taking hold of it. The pain as yet is only an itching, and these wales will rise in patches frequently along where the nails have passed over the skin in scratching. A burning and itching pain is felt in this stage of the disease, which in some instances, tempts the patient to seek relief by bathing in cold water; but this only aggravates the complaint, and frequently causes it to extend over the body, producing an indescribable pain and itching. In some cases, a great oppression is felt in breathing—the patient is scarcely able to articulate a single word. All this will take

place in the short space of half an hour, and this description is drawn from experience of my own—vivid in my recollection, although it occurred when I was but a youth. If the disease continues, the wales will die away in one place, and spring up in another, and after a day or more, a considerable fever will be found to be present. In this way the whole skin is sometimes, as it were, thickened and rendered somewhat red, but without the tenderness that belongs to inflammation. In three or four days, such cases subside of themselves, even without the administration of any remedy. The patient is however left more or less disordered, and will be liable to future attacks of the same complaint.

The chronic form of this disease, differs widely from that we have described. There are considerable varieties in different cases; in some instances, the disorder makes its appearance as soon as the patient becomes warm in bed at night. A tormenting itching with wales similar to those we have described takes place, and many times, continues with great irritation through the greatest part of the night. On rising from bed, and exposing himself to the cool air of the morning, the disease will disappear to make its return again at night. In this intermittent form, the disease exists in many instances, varying in every way that can well be conceived. From the account we have given, the identity of the disease will be always known by its close resemblance to the pain produced by the sting of nettles.

#### CAUSES.

Writers generally agree in attributing this disorder to an irritation on some part of the intestinal canal which is by some means transferred to the skin. This, I have no doubt, is generally the case; but in the acute form of the disease, I think it far from being certain, that the disorder has such an origin. In many instances, it appears to me to be wholly independent of the state of the stomach or bowels. In the chronic cases which I have seen, it has appeared to me to depend upon the health of the patient at the time; even in these cases, I have not always been able to satisfy myself, that the bowels or stomach were more concerned than other viscera. A great deal has been said of the influence of certain kinds of food in producing this disease. It has so often happened to persons soon after feeding heartily on muscles, crabs, lobsters, and other shell-fish, as well as from eating pike, salmon, mackerel, and other fish of the highest orders, that we are bound to concede

that this is a frequent cause of this disease ; still it has never occurred to me to witness it as arising from any such cause. It may be proper that I should observe here, that nettlerash frequently occurs in cases of bilious fever, and that in treating of that disease, the cases which happen to be affected with this symptom, are sufficiently discussed.

#### TREATMENT.

In sudden attacks of this disease, when there is good reason for supposing it to have arisen from improper food remaining still undigested on the stomach, it will be proper to administer an emetic. A dose of ipecac will answer the purpose very well, and should be given in sufficient quantity to act promptly, so that its operation may be over as soon as possible. The physicians of the West Indies, who have seen this disease arising from improper food oftener than others, advise the sulphate of zinc or white vitriol. as an emetic in these cases. Twenty grains of this article may be given in water at a dose. Its effect will probably be prompt and satisfactory ; but in cases in which there is no reason for supposing the stomach to be burdened with improper food, I object to the use of emetics or cathartics, and administer promptly a full and decided dose of laudanum—from sixty to one hundred drops according to the acuteness of the symptoms. The patient should be instantly placed in bed, and warm bricks, or something of the kind, placed around him, so as to bring forth as speedily as possible, a profuse perspiration. Probably every symptom of the complaint, will disappear under this treatment in two hours ; and if the patient is allowed to keep his place for a number of hours, and on rising from his bed will take a portion of brandy and water, he will probably have nothing more to apprehend from the disease. If the case requires an emetic, that emetic should as soon as possible be followed by the use of laudanum which I have here directed ; and with this simple form of treatment, I have found the acute form of urticaria uniformly subdued in one day—not remaining as authors tell us for five or six, under the treatment they have advised. Other stimulants might be used in the place of opium. A West India physician has bestowed the highest commendation on capsicum or red pepper. Now I have no doubt, that this is a remedy of the first class, but I have been so well satisfied with that which I have used, that I have never tried it. Warm bathing has been of late recommended, and this also I have no



doubt, if practiced early, and not continued too long, will be highly comforting and beneficial to the patient.

The chronic cases of nettlerash are much more difficult to manage. They sometimes last, in spite of any treatment I have been enabled to discover, for weeks or months, occurring from time to time at uncertain intervals, commonly every night; sometimes once a week or not so often. These cases are to be treated in reference to the general health of the patient, and so far as I have observed, such patients are never in high health. The paroxysm or attack of the disorder on going to bed, may be beneficially met by a dose of laudanum; but this cannot be repeated from time to time as often as it might be called for. I have used a variety of similar remedies in these cases. Camphor I regard as next best to laudanum. Water of ammonia or spirit of hartshorn, I have found equally beneficial; but these remedies afford but temporary relief, and the patient returns to his bed the next night, with equal reason to fear another attack of his disease. I have tried, in these cases, a course of mercurial remedies, producing a slight degree of salivation, but the results have not been satisfactory. Iodine has equally failed me. At the present, I should hardly think it necessary to resort to these remedies. A general course of tonic medicines founded on the preparations of iron, with exercise in the open air, is all that I have, at the present, to suggest.

---

### BLEEDING AT THE NOSE—EPISTAXIS.

This is the most common of all hemorrhages, and scarcely requires any description. It is so various in degree, that in one case only a few drops of blood will flow; but in another a stream, or rapid succession of drops will continue even to the destruction of life. The quantity of blood which has been seen to flow from the nose, when it has continued for several days, is enormous. When the discharge is considerable, it will always receive prompt attention, for every one knows that death is the consequence of its continuance.

Bleeding at the nose occurs in various states of the system, and in some cases becomes habitual; returning at intervals for months, or even years. It is most frequently a troublesome disorder in boys, at or before the age of puberty. In these cases, the health becomes impaired, the countenance dejected, the face pale, the pulse full and bounding, and the disease danger-

ous, if not fatal. But all ages and sexes are subject to its attacks, and it should never be regarded as a trifling disorder. In many instances, it is thought to be a beneficial discharge, relieving internal and dangerous congestion in important organs. But these cases are not less worthy of attention than others, for the disorder which appears to be benefited by this hemorrhage, is very apt to return again, and probably with aggravated symptoms. I knew an aged man who frequently had violent pain and fulness of the head, with bleeding at the nose, which gave him immediate relief. He fell a victim to a sudden attack of apoplexy. The state of health, of persons who have had repeated attacks of bleeding at the nose, should always be particularly studied, and remedies used to prevent the congestion and fulness, which are sure to precede the attack.

#### REMEDIES.

The treatment of this disease may be divided into that which is proper in the attack, and that which is required in the interval. The remedies suited to the interval, or time which intervenes between one attack of bleeding and another, will vary according to the nature of the case. If it is a young female with obstructed menstruation, who is to be prescribed for, the removal of the obstruction is the first consideration; and the remedies for that disease will probably hinder the return of the bleeding at the nose. If it occurs in an old person in whom an attack of apoplexy is to be apprehended, a light diet with active cathartics when symptoms of the attack come on, will be necessary. If the fulness of the head, drowsiness, or other symptoms of congestion come on, no time should be lost in opening a vein, and drawing a full portion of blood from the arm. Where the patient is a youth, and the fear of apoplexy is less, the treatment should be a little varied. The debility and emaciation which follow the attack, should be remedied with tonics and stimulants, especially preparations of iron. From ten to twenty drops of muriated tincture of iron, may be given twice a day. A glass of porter, or brandy and water before dinner, will also be proper. But where the case is attended with a low fever, and pain in any particular part, the tonics and stimulants recommended will not be found beneficial. In such cases I have administered calomel, or blue pill, in broken doses, with great advantage. Four or five grains of calomel, every second day, till two or three doses are taken, will be sufficient. When the time for the attack approaches

more active remedies are necessary. This time will be known by a throbbing of the arteries of the neck, full pulse at the wrist, headache, drowsiness and other symptoms of plethora. At this time, give a cathartic of cream of tartar and jalap. The next day, commence with the antimonial mixture, and give two tea spoonsful, four times a day, for several days. It should not be pushed so far as to operate much on the bowels. If the attack can thus be delayed it may probably pass off for the time. The great difficulty of managing these cases, arises from the indiscretion of persons of this age. They will not abstain from excess in eating, nor will they report the symptoms of plethora which may come on.

When the attack has come on, it has been advised, to let the blood flow till a reasonable bleeding has, in this way, taken place. My opinion is, that this is not a judicious plan. If the pulse is very full in the arteries of the head and neck, after the blood has ceased to flow from the nose, a vein in the arm may be opened. But this will seldom be necessary; the remedies used for suppressing the hemorrhage, will commonly reduce the pulse sufficiently. The stopping of the blood is commonly a very easy matter. Let the patient place himself, either sitting or standing, with the head nearly erect. It will be best to lean the head against something that it may be still. The face should be bent forward, so as to admit of the patient seeing any thing on the ground a yard before him. He should then raise the arm on the affected side, or both arms at once, if the blood flows from both nostrils, and with the fore finger press down the out side of the nostril, so as to check, but not entirely stop, the blood. The blood will by this means be detained, and coagulate in the nostril; the upper orifice of which by the position of the head being the highest part. If the arms become fatigued, let the nostril be stopped with a roll of lint or cotton cloth, inserted loosely so that the blood may at first ooze by it considerably. The clot of blood should be allowed to remain till it comes away of itself. I do not know whether I have so described this simple process, as to enable any one to practice it successfully; but I have met with no case of bleeding at the nose in twenty years, which I could not stop in this manner, in fifteen minutes. But I must not omit the mention of more powerful remedies. If the case is obstinate, let the patient lean forward and pour cold water in a small stream on the head, from a pitcher held a foot or more above. The water should be as cold as it can be conveniently had, and the process continued till the blood ceases to flow, or the patient finds it too

painful to be borne with convenience. If this fails, take of powdered alum, and roll a portion of it in a rag so as to form a long tent, containing twenty or thirty grains of the powder. Let this be passed as far up the nostril as possible. If this proves inconvenient, the alum may be drawn up the nostril like snuff. Other astringent powders, especiall galls, may be used in the same way. After the snuffing of such remedies, the position and treatment first recommended, should be practiced. In the event of these remedies failing, pressure on the part is to be tried, if it can be accomplished. The mode advised, is, to pass a double cat gut cord through the nostril to the throat, and to put in it a roll of cotton or lint and draw it into the nostril next the throat. The same nostril, at the end of the nose, should be stopped, and the blood cannot escape either way. I am told this is a difficult operation; and I never had occasion to practice it. There can be no doubt of its efficacy. I should have mentioned another remedy which has often suppressed bleeding at the nose. It is the sudden application of a cold substance to the parts of the body which are commonly least exposed to cold. A large key passed down the back has proved a remedy in such cases. A piece of ice passed down the body, either on the back or in front, would have still greater power. Other ways of making the application of cold to the body, will suggest themselves.

After all, it has been properly suggested, that there are cases in which death occurs from the oozing of blood from open vessels, when the powers of life and the force of the circulation are almost extinct. In these cases, the face will be pale, the extremities cold, and great faintness, point out the danger of immediate death. In such a case, give a tea spoonful of laudanum, and make warm applications to the extremities.

---

### CANINE MADNESS—HYDROPHOBIA.

Every one knows that this awful disease is produced in men, by the bite of a rabid animal. The animals capable of producing this disorder, are confined to two tribes, the dog and the cat, including however their near relatives—the wolf and the fox. The wound inflicted by these animals, has at first nothing peculiar in its symptoms: it will heal as readily as any similar wound inflicted by any other animal. The time at which the disease may make its appearance after the infliction



of the wound, is said to vary from nine days, to a whole year ; but the time at which it most commonly manifests itself, is from four to six weeks after the accident.

The first symptoms of the approach of this disease, is a pain in the wound, or in the cicatrix, if the wound shall have healed. This pain extends towards the neck and throat, and frequently produces great torpor of the limb affected. This state of things may last several days ; but when the attack has fairly come on, the symptoms are greatly altered. The state of mind in which the patient is found is peculiarly awful : every one who has described it, bears testimony that in no human affliction is the expression of countenance, so awful as in this. It can not be beheld without the greatest awe, and suffering even to beholders. Considerable pain is felt about the region of the heart. A despair in the mind attends it which admits of no alleviation, or comfort. The patient is perfectly confident of his doom. But he is not allowed to suffer in affliction of mind alone : he is tormented with an insatiable thirst, hiccuping, vomiting of bile, and a considerable degree of fever. His sensibility is, in the first instance, very much increased, and he is unable to bear the touch of his friends, however light. Violent spasms take place from time to time, and the mind is frequently thrown into the highest degree of delirium. But the characteristic symptom of the disease, is the inability to swallow fluids which attends it from the first : if the patient takes water into his mouth, he is seized with a violent convulsion. This symptom is not always in this extreme ; but, to some extent I believe it is always present. It never has occurred to me to witness a case of this awful disease in man : I have several times seen it in dogs, and other domestic animals. On one occasion where a hog had been thrown into this disorder by the bite of a dog, I observed, on the morning of its attack, an attempt by it to drink water : it no sooner touched the fluid with its mouth than it raised its head, recoiled for several spaces, and fell back, as if in a dying struggle. Death commonly takes place before the sixth day ; and so far, it is painful to say, that no remedy has been discovered for the disease.

#### TREATMENT.

Although hydrophobia, when it has been fairly established, has always proved fatal, the treatment of the bite of a rabid animal is by no means a matter of indifference. It is a conceded fact, that the perfect excision of the tooth marks of the

dog, is to be relied on with great confidence for the prevention of the disease. This should therefore be done in every case, where the dog which has inflicted the wound is reasonably supposed to have been in a rabid state. I am not prepared to say that no medicine whatever, can be given, with any prospect of advantage, during the painful period which must intervene, before it is decided whether the attack will take place; but I have nothing to offer, and recommend the excision of the part, and the application of caustic to the wound thus enlarged. With this recommendation therefore it might be as well to terminate this essay.

It may not be amiss, however, to state, that in the management of these cases, the attendants will be perfectly safe from contracting the disease: no contact with the saliva, or injury inflicted by biting from these patients, has ever produced the disease in another. It is therefore in our power to bestow on these unfortunane victims, all the care that humanity requires. It is painful to reflect that in times past, a belief in the infectious character of this disease, gave rise to a system of management peculiarly savage and horrible. Such patients were, without mercy, thrown on one bed and smothered with another! This practice continued through many ages, and was not abandoned in all countries, till about the fourteenth century.

While preparing this article for the press, I notice in one of the periodical prints, a statement that the newly discovered article chloroform, has been successfully used in the treatment of hydrophobia. Whether this achievement has been performed, by this newly invented remedy or not, I am unable at this moment to say; but there is no article whose powers would seem to be more suitable to the treatment of this disease, than chloroform. I should not hesitate, were a case to occur in my practice, to give to this new article, a fair and decisive trial.

---

## POISONS.

Any substance which being taken into the body, or in any manner applied to it, will produce death, is a poison. The number and variety of these substances, is manifestly too great to be noticed in detail in this place. I shall not even attempt a systematic arrangement of the articles which it is my purpose to mention, but treat of them in such manner, as I think

most useful, without any regard to their relation with one another. It is my purpose to bring to the notice of the reader, such substances, as from being frequently met with, may be used either by accident or design for the destruction of life, and to set down such of the symptoms they will produce, and particularly the remedies used for them, as may appear to be requisite. The principal mineral substances which have been found to act as poisons, are the sulphuric, nitric, and muriatic acids; potash, nitrate of silver, corrosive sublimate, arsenic, the salts of copper and of lead, and tartar emetic. In addition to these, several animal and vegetable substances might be mentioned. Of these, the principal are cantharides, or the Spanish fly, prussic acid, and opium. This list might be indefinitely extended; but I shall find by the time a reasonable notice is taken of these, that I have devoted as much space to this subject, as can be allowed it.

The sulphuric, muriatic, and nitric acids, are poisons of the most acrid and powerful kind. They are poisons from their destructive effects, but may be taken when sufficiently diluted, not only without injury, but in many instances, with great advantage. The sulphuric acid, which is regarded as the strongest of the acids, when in a concentrated form, cannot be safely taken into the stomach. Even a drachm of it has been known to prove fatal; but in other cases, three, and even six times this quantity has been taken without destroying life. In a diluted form it is a common remedy; but persons should recollect, that before it is diluted, it is more than ten times stronger than the ordinary elixir vitriol. It should therefore be given, with a corresponding degree of care. The nitric acid seems to be still more fatal than the sulphuric; the dose which can be safely taken is still less. The muriatic acid seems to be less offensive to the stomach, and may be taken in greater quantity; still an ounce of this in a concentrated form has been known to produce death.

The action of these powerful acids on the stomach, is so similar, and the remedies for them so much alike, that I consider it unnecessary to treat of them separately. When taken in over doses, they produce a violent burning pain at the stomach, and sometimes vomiting, in which the acid is thrown back from the stomach. If the article is retained, and passes on through the bowels, it produces a caustic effect in proportion to its quantity; and in many instances, fatal results have taken place from the injury thus done.

The sudden and dangerous effects produced by the swal-

lowing of either of these articles in quantity, render it important that a remedy should be always at hand, and taken instantly. If nothing better can be done, large draughts of tepid water, and even cold water, should be taken to excite vomiting, that the acid may thus be discharged. But there are many substances which readily combine with these acids, rendering them innocuous or neutral in the stomach. The vegetable and mineral alkalies, potash and soda, are, one or the other almost always at hand. Either of these may be dissolved in water, and taken in sufficient quantity to neutralize the acid. But this should be done by the table spoonful at a time, and not continued longer than may be necessary. No certain rule can be given for the quantity of these articles which should be used ; for the quantity of the acid taken being greater, requires a greater quantity of the neutralizing substances. A safer article than these is found in prepared chalk, which may be given in sufficient quantity. Any quantity, to the extent of an ounce, may be given in cases of this description. Magnesia, either calcined, or in the form of the common carbonate, is also a safe and effectual remedy in these cases. As soon as the acid is neutralized in the stomach, or otherwise removed from it, the disease becomes a mere irritation from a caustic article, and is to be treated on general principles, without any reference to the particular substance that has caused it.

Potash, either in its common or most caustic form, is a poison which may produce death, if taken into the stomach. No time is to be lost in finding a remedy. The safest and most convenient of all remedies is common vinegar, which should be diluted with water, and drunk freely until the alkali is fully neutralized. The diluted sulphuric or muriatic acids will answer the same purpose.

Nitrate of silver—lunar caustic, has become a remedy of such common use, and is, withal, so sudden and destructive in its effects, that a remedy for too great a quantity taken by accident or design, should be known to every one. We are fortunately in the possession of such a remedy, and it is in the house of every one. It is common salt. A solution of common salt in water, should be swallowed as soon as possible after the nitrate of silver. This will instantly arrest its effects, and the patient will be left with no more injury, than the caustic has produced previous to the taking of his remedy.

Corrosive sublimate, or bichloride of mercury is an active poison. Three grains of this article have been known to destroy life ; but I have known fifteen grains of it taken by mis-



take for calomel, gotten rid of without the destruction of life. The symptoms which arise from the swallowing of an over dose of this article, are violent vomiting, pain in the stomach extending to the bowels, and finally producing a strong cathartic effect. The vomiting which the article is apt of itself to produce, should be so far encouraged, as to allow of the discharge of the contents of the stomach. But very little time should be lost in this. The remedy which has the sanction of experience, is albumen or the white of eggs. When brought in contact with corrosive sublimate, this substance immediately combines with it, and renders it innoxious. It should therefore be taken as speedily as possible, after the patient is known to have swallowed the poisonous drug. If the white of eggs cannot be readily procured, milk may be substituted, or even flour rubbed in water will be found a remedy for this terrible poison. As soon as a sufficient quantity of either of these articles has been passed into the stomach, all that we can do towards the relief of the patient, has been accomplished. The ill effects which may have been produced on the stomach, must be treated as in other cases of irritation or inflammation, as the case may be.

Arsenic is probably more universally known as a poisonous substance, than any thing else : it is therefore important that the means of arresting the ill effects of it, should be known. The symptoms produced by an overdose of this substance, are nausea, vomiting, and burning pains in the stomach, and if death does not happen in a short time, prostration of nervous power, paralysis, and other symptoms of the entire destruction of the nervous power. Three or four grains of this substance are considered a fatal dose ; although some have escaped who have taken thirty or even forty grains. For a long time it was considered in vain to offer antidotes for arsenic. The suddenness of its effects, and the destructive power it exerted, were considered almost beyond the hope of remedy. Of late, however, we are taught to have faith in certain preparations of iron that have been found effectual in neutralizing or destroying the effects of this poison. The hydrated oxide of iron, has been particularly recommended, and is, I have no doubt, entitled to the reputation it has acquired. It is not long since, I had an opportunity of testing its effects. I had procured about four ounces of this substance from Rushton & Co., New York, and kept it closely sealed for two or three years ; when suddenly there appeared at my door, a man who informed me that he had four little negroes poisoned with arsenic. They

had, an hour before, eaten some cheese, which had been poisoned with this article for rats. They were all four vomiting violently, and two of them appeared to be in the greatest extremity. The whole of the medicine which I had was instantly sent to them, and directed to be mixed in about a gill of water, and given them by the table spoonful as fast as it could be administered around, until they had obtained relief. I was not present at the administration, because the patients were at some distance from me, and I hurried off the messenger as fast as I could. Two of these patients were relieved in less than five minutes, and the remaining two in the course of an hour. All four recovered without the slightest ill consequence, and even in a day or two were apparently as well as ever. It is suggested that other preparations of iron, may be used with equal success for the relief of patients poisoned with arsenic. The common carbonate, or the precipitated carbonate, whichever can be most easily obtained, should be tried. It is suggested also, that other absorbent medicines, such as prepared chalk, and magnesia, should be tried in the event of nothing better being at hand.

*Copper.* The salts of this metal are all poisonous. Verdigris, and blue-stone, the most common preparations, are poisons if taken into the stomach in too great quantity. The effects produced by them, are violent pain in the stomach, nausea, and vomiting, which if allowed to continue, finally produces pains through the alimentary canal with copious discharges by stool, not unfrequently mixed with blood. The most frequent cause of accidental poisoning by copper, is found in the use of vessels composed of this metal as cooking utensils. It is a peculiarity in this metal, that it is not subject to be dissolved even in vinegar, when it is in a boiling state; but if articles are allowed to remain in it until it becomes cold, there is great danger that a solution will take place, and render the contents poisonous. Many cases are mentioned, in which persons, who had taken food thus carelessly prepared, have been poisoned, and I have had an opportunity of witnessing one instance, in which many persons were poisoned in this way. The symptoms produced by it were such as I have described above. Fortunately, no case of death occurred. It is painful to remark, that we have nothing worthy of being called a remedy for this accident: no antidote is known, and we are left to use such means of diluting the contents of the stomach, as it may be in our power to use, and such relief as the use of anodines or other narcotics may afford.

Lead is another article which is sometimes used to produce the effects of a poison. It is not so caustic and destructive as the articles of which we have spoken ; but taken in a large quantity, from a drachm to an ounce for instance, even the sugar of lead becomes a dangerous poison. The symptoms it produces when used in this way, are those arising from great irritation of the stomach, vomiting, pain, &c. But the most common manner in which lead becomes a poison, is by the use of it in very small quantities for a great length of time. Mechanics who work in this metal, and painters who use it in the form of white lead, are subject to attacks of colic, which are believed to arise from this metal. Of late, I observe that it is stated, that it is only the carbonate of lead which will produce these effects ; and this is the state in which the metal is found in white lead. How small the quantity is, which will produce these effects, cannot be known, and it is even doubtful, whether it is absolutely necessary, that it should be taken into the stomach ; for the painter, and plumber, in many instances, are found attacked with this disease, when there is no evidence whatever that they have taken lead into the stomach. When poisoning has taken place from the introduction of large quantities of the salts of lead into the stomach, relief may be expected from the use of albumen, or the white of egg, or milk, or flour, as recommended in the treatment of poison from corrosive sublimate. The colic which arises from the use of this metal, has been treated of in this work, under the title of painter's colic.

Several preparations of antimony are fully entitled to be considered poisonous ; but they are so little in use, that I think it only necessary to speak of tartar emetic. Every one knows the violent vomiting produced by tartar emetic, and no further description is necessary of the disorders it produces. The prostration which attends an overdose, is sometimes productive of danger, and death. We have two remedies well worthy of trial, for the removal of the effects of tartar emetic. The first is powdered galls, or what will answer the same purpose, a strong infusion of oak bark. A tea spoonful of powdered galls, may be put into three or four table spoons of water, divided into three or four doses, and given, one every five minutes, till the vomiting ceases. Opium, is also a powerful remedy for arresting the effect of antimony. It should not be given until vomiting has been sufficient to throw off the contents of the stomach ; then give laudanum in doses from sixty to an hundred drops as the case may seem to require. This

remedy should be repeated, from time to time, as long as the case may seem to demand it.

Cantharides, or Spanish flies, are a fatal poison when taken internally in doses which are too large. Twenty-four grains is the smallest quantity which I have seen spoken of as having produced death; but I should think a much smaller quantity might be productive of this consequence. The symptoms which arise from it, are peculiar, and may serve to distinguish it from other poisons. In addition to the pain and vomiting usual from irritating poisons, cantharides produce stranguary, incontinence of urine, bloody urine, and frequently priapism. These symptoms will sufficiently distinguish it from any other poison. Unfortunately, we are not in the possession of any thing which is entitled to the name of a remedy against this poison. Copious, diluting, and watery drinks, and in the last stage, such use of laudanum as the pain and exhaustion of the patient may seem to require, form perhaps the only remedies worthy of being mentioned.

All the articles which we have yet named as poisons, produce a violent irritation of the stomach and vomiting, and thus produce their own discharge from the body. This gives many advantages in the treatment of such cases; but there are other articles equally destructive of life, which produce no vomiting, or tendency to their own discharge from the system. I shall mention a few only of these.

*Prussic Acid.* This article, although a poison so deadly, that one may not look on it without fear, has become so common in our shops, that it would not seem proper to pass over it in silence. The dose of it which may be safely taken, is so small, that I will not pretend to particularise it here: all that I think it necessary to say, is, that it is instantly destructive of life if taken in too large quantity. No substance with which we are acquainted, seems to destroy animal life so suddenly. Of late, it has been suggested, that the sudden effusion of cold water on the body of persons who have swallowed this substance, has sometimes appeared to restore them, when life appeared to be extinct. I should certainly try this remedy if I had an occasion for it; but I confess I should not use it with a great deal of confidence.

*Opium.* Although this article is one of our most valuable remedies, we do not dare to exclude it from the class of poisons. Taken in large quantities, it is well known to produce a sleep so profound as to end in death. The quantity which is sufficient to produce this effect, varies from four to twenty



grains of solid opium. Less than four grains, has, I believe, never been known to produce death in a grown person; and no individual except habituated to its use, can safely take as much as twenty grains. The preparations of opium, most commonly used, may properly be mentioned here. Of morphine, a grain is as much as can be safely used: from two to four grains is a fatal dose. Of laudanum, from sixty to an hundred drops may be safely taken: from two to four hundred drops, which will nearly fill an ounce vial, will be certainly fatal. The remedies which have been used for the relief of persons who have taken fatal doses of opium, are principally such as produce its discharge from the stomach. The most certain emetic for this purpose is ipecac, which although a very mild emetic, seems to operate with great promptness in the presence of opium or laudanum. It should be given promptly, and in large quantity: thirty grains, for instance, every five minutes. Should the stomach not reject it, means should be instantly adopted to evacuate its contents by means of a stomach pump, which I need not describe in this place. As to remedies for the correction or removal of the effect of opium which is retained in the system, they have, one by one, lost their credit, until it is now believed that we are not in the possession of a single article worthy of being mentioned. The only security is to produce a thorough and full discharge of the contents of the stomach, and after this is accomplished, to hinder the patient from dropping off to sleep. After a sufficient time has elapsed for the effect of the opium to pass off, there can be no doubt but much benefit will arise from a moderate use of other stimulants. A little brandy and water, or a glass of porter, or a strong cup of coffee may be tried.

---

### CACHEXIA.

This term has been applied by medical writers to numerous diseases, all producing as they say, "a condition in which the body is evidently depraved." This state of the system has been thought to arise from scrofula, scurvy, rickets, dropsy, cancer, and other diseases. But many of these diseases are entitled to a separate consideration under their own titles; and the cachexy which belongs to them, will find its proper treatment in their consideration. I propose, therefore, to consider in this place, only a single form of cachexy, which usually arises

from that depraved health, which grows out of disorders of the spleen, of the liver, and sometimes from the impaired powers of the stomach. These cases are commonly witnessed in the childhood and youth of persons who have resided in unhealthy localities, and been exposed to hardship and privation. That region of the South which has been termed sickly, affords the principal examples of this disease; but there it is so frequently met with, and so destructive, that I should have thought myself unpardonable to have passed it unnoticed.

#### CAUSES.

A depraved appetite is frequently observed as the first symptom of the approach of this disease. This state of the appetite manifests itself in early childhood, and produces a love for chalk, clay, common salt, or other equally improper, and indigestible substances. This appetite, if unrestrained, or uncorrected by proper remedies, leads to the destruction of many children; for they go on, increasing in the quantity of those improper articles, as long as they live. A similar state of health is sometimes brought on by the annual recurrence of intermittent fever, and in many instances we find patients laboring under the same state of disease without being able to attribute it to any cause whatever. When the disease has been fairly brought on, its most prominent symptom, is a cadaverous paleness of the face, even extending to the lips. At the same time the pulse is full and round, and by looking on the patient the arteries of the neck will be seen beating on each side with great violence: the breathing, at the same time, is hard, and there is present a great degree of debility. Subdued in spirit by this state of health, the sufferer sinks down, and without appearing to desire even health, gradually declines to the end. This description, applies particularly to persons between the ages of seven and twenty; but older persons are, many times, affected in the same way. Even the depraved appetite which has been mentioned, is sometimes so violent in grown persons that they give way, like children, and sink under so low a vice, as eating dirt.

#### TREATMENT.

In pointing out the remedies for this disease, I feel that it is necessary to state that although the patient is reduced, pale and emaciated to the last degree, he is very commonly laboring under an active inflammation of some important organ—the liver,

or perhaps the spleen. He is therefore incapable of being relieved by the stimulants and tonics, which would seem to be so plainly indicated in his case. He must be treated, in the first instance, with certain depleting remedies, and with others which have obtained the name of alteratives. Where there is present much fever with strong and bounding pulse, I do not hesitate to advise the letting of blood: the quantity drawn, should, however, not be great. It should be about half the measure that would be proper to the same person, in an acute, inflammatory disease, such as pleurisy. This remedy, will hardly require to be repeated; but should the same symptoms continue after a week or ten days, I should certainly advise, that it be repeated. At the time of the first bleeding, give an ordinary cathartic of calomel. Take another dose suitable to the age of the patient, and divide it into six portions: of this give him one daily till the whole is taken. By this means, he will be probably, thrown in some degree, into a mercurial habit: and this is the greatest of our remedies for this disorder. But it may not be safe to persist in it farther, and the patient, will be very frequently found, but partially relieved. The next remedy to be offered is iodine: this should be given in the form of tincture, from five to twenty drops, in water, three times a day. This may be continued for two weeks, and if the symptoms do not appear to give way, it may yet be continued for a longer time. In addition to these remedies, where there is an evident enlargement of the spleen, a blister should be applied over the region of that organ. In some of these cases there is a strong tendency to dropsy: and in such instances, pills composed of calomel and squills may be substituted for the calomel that has been above recommended. Where the swelling of the extremities is very great cathartics of cream of tartar and jalap, may be given from time, to time, according to the urgency of the symptoms. This is a tedious disorder, and the remedies spoken of, should not be crowded too rapidly, one on another, but time should be allowed that the changes which may happen, may manifest themselves in the symptoms. As the disease approaches its termination, whether the patient be gaining or not, it will be necessary to suspend these remedies, and to resort to tonics and stimulants: preparations of iron are the most valuable in this stage of the complaint. The muriated tincture may be given in doses of from five to twenty drops, three times a day. Other preparations of iron may substituted from time to time; but this is to be the leading remedy for the restoration of the digestive powers of the pa-

tient, and the restoration of the red blood of the system.

Great attention should be bestowed on the diet and drinks of these patients. It is to be recolled that the appetite is wholly depraved, and that, in many instances, it is as ravenous as in any other disorder. Care should therefore be taken that the food which is given, should be of easy digestion, although not too deficient in nutritive power. The same care is necessary in regard to the use even of water; for the thirst is sometimes as insatiable as the appetite for food: water, therefore, should be given with due care that too great a quantity is not taken.

---

### HICCUP.

Every one has seen this mild and safe, though sometimes very troublesome and painful disorder. It consists in certain spasmodic motions of the stomach, the diaphragm, and œsophagus; and learned writers have not been able to decide the exact character of these motions. When the disorder occurs, it produces a sudden, convulsive motion, attended with some degree of noise in the throat or stomach, and this is repeated sometimes every half minute; but at other times not so often. The disorder frequently subsides, of itself; but in other instances, even in healthy persons, I have known it to continue for days, and even weeks. Sometimes it occurs in the last stage of fever, in which case it is considered a sign of the great prostration and danger of the patient. As to the causes of this disorder, they are equally the subject of dispute. Most frequently, I think the attack is brought on by the presence of indigestible food too hastily swallowed. But there are cases in which it appears to be brought on by the want of food. The remedies which appear to succeed in arresting this disorder, are as inconsistent as its causes. When the disorder has arisen from the want of food, there can be no doubt, but the readiest way to remove it, is the taking of some easily digestible aliment. When it arises from the presence of indigestible food, which is by far the most common case, it is to be arrested by remedies of a different character. Here the use of stimulants of various kinds has been advised. Opium, or laudanum, in doses of thirty drops, has been often found effectual; but I prefer the water of ammonia, or common harts-horn in these cases. Twenty or thirty drops taken in water, and repeated, if necessary, in half an hour, will seldom fail to



arrest the disease. Making a deep inspiration, and holding the breath for as great a length of time as the patient can endure it, will, sometimes, put a sudden stop to the disorder. The distension of the stomach, also, by slowly swallowing a large draught of water, as much as the patient can get down, will sometimes also, arrest the disease in a moment.

Considering the disorder as depending on indigestion, it is reasonable to suppose, that such tonic remedies, as will give strength to the stomach, and enable it afterwards, to digest the food taken in it more promptly, will have the best tendency in this disorder. I have accordingly ordered them with very beneficial results. When the attack of the disorder is sudden, it is frequently arrested by any emotion of the mind : surprise, fear, or any thing of the kind, will suddenly arrest it. In addition to these remedies, such absorbent or alkaline medicines, as are usually taken to correct an acid stomach, may be given. Calcined magnesia, precipitated chalk, or carbonate of soda, given in moderate doses, will answer this purpose.

---

## HEMORRHAGE.

A discharge of blood from any part of the body, is termed a hemorrhage. The danger attendant on many of these diseases, is so great, and their occurrence so frequent, that they are treated of under separate heads in all treatises on medicine. But their variety is so great, that it would be beyond our limits to give to each a separate consideration, and we have contented ourselves with treating of the most important under their particular denominations, leaving the subject at large, to be treated of in this place. We are not about to treat of the flow of blood which attends wounds, or injuries of that description, but of those cases which occur spontaneously, and often without any assignable cause. These cases are very often exceedingly alarming ; and in many instances, fatal. Almost all parts of the body are subject to this disorder : the most frequent cases are discharges of blood from the nostrils, from the hemorrhoidal vessels in piles, from the uterus in females, and from the lungs. But there are cases of hemorrhage from other parts. In some instances, blood has been seen to flow even from the unbroken surface of the skin ; and the whole internal mucous surface of the alimentary canal is subject to this disorder.

The causes of hemorrhage are exceedingly various. It is often a habitual disease, continuing to recur, from time to time, for many years, with but little injury to the health of the patient. These cases most frequently occur in discharges of blood from the nose, and in piles. The quantity of blood which is discharged in many of these cases, in a given time would lead us to expect, that there were large blood vessels ruptured. But this has not been verified by investigation. The blood which is thrown up from the stomach, discharged from the lungs, or passed by stool, often flows from vessels exceedingly small. Even when death has resulted, the anatomist has frequently sought in vain, for ruptured vessels of any kind. The blood, although the quantity discharged had been so great as to destroy life, had flown from vessels too small to be observed even with a microscope. It had, as it is termed, been exhaled from the minute vessels of the lungs, or the intestines, as the case might be. Hemorrhage has been divided into two varieties, the active, and the passive. In the active, the circulation previous to the commencement of the discharge, is active or violent; in the passive, the contrary prevails, and the blood seems to ooze from the part, either from being of extraordinary thinness, or from the vessels themselves proving too weak to retain it. These divisions have been thought of importance in practice; the passive hemorrhage is so rare, that it is not to be expected in common cases, but I have witnessed it in scurvy, and, perhaps, in some other diseases.

#### REMEDIES.

Where hemorrhage is a habitual disease, it is not to be checked as suddenly, as if it were not so. For instance; a patient is subject to hemorrhage from piles, or from an occasional discharge of blood from the nostrils, or even a spitting of blood. When the patient is a female, and under a suppression of the menses, the physician is not to come in too suddenly with his remedies, to arrest the discharge. It is to be allowed to progress to such an extent, as may appear safe and advantageous: after this, the suppression of the discharge, is to be attempted with the same remedies, which will be advised in other cases. On a sudden attack of hemorrhage, from whatever source the blood may be discharged, the patient should be placed in a situation of perfect quietness. Generally, it will be best for him, to be placed in a horizontal position; but where the discharge of blood is from the nostrils, an erect position is best.

In this situation, the free admission of cool air is first to be provided for. If the discharge of blood is very considerable, and, has not continued for a great length of time, it will be best to open a vein, and draw blood from the arm in a full stream. This frequently brings the case to a close at once. When this is accomplished, applications of cold water according to circumstances may be freely made. The internal remedies which have been relied on, are astringents; the acetate of lead in doses of four or five grains frequently repeated, being considered the most effectual. Powdered galls in doses of ten grains, or of alum in the same dose, may be administered from time to time. The swallowing of cold water or of bits of ice, has, many times, proven a valuable remedy in this disease. These remedies, are to be used from time to time, according to the extent of the disease, and the strength of the patient. Where there is reason to believe, that the hemorrhage is of the passive kind, and that want of vigor of constitution, and strength of blood vessels, is the real cause of the disease, opium will prove the most valuable remedy in our possession. I think I have given it in cases of this kind, with very great advantage. It may be given in the form of laudanum, or morphine. Sixty drops of laudanum, or an equivalent dose of morphine, may be given.

---

### BLOODY URINE—HAEMATURIA.

This disease consists in the discharge of blood from some portion of the urinary passages, which include the kidneys, the ureters, the bladder, and the urethra. It is discharged, mixed with urine, or in the shape of pure blood. Where the quantity of blood is considerable, and the urine of itself, pale or not of a very deep color at the time, there is little difficulty in deciding on the presence of this disease. But the color of the urine itself, is so various, that we are not always enabled to decide this question so readily. Urine is sometimes as limpid as water; without any admixture of blood, it is in other instances very red; and by the admixture of bile, it becomes in some instances, so darkened, as to have the appearance of being almost black. All these shades are met with, without the presence of any blood in the urine. Commonly, there will be no difficulty in making the decision. The clear, red color of the blood gives to the urine such a tinge, that we are not left in

any doubt on the subject ; but where the doubts we have above suggested present themselves, a little time, and close observation will enable us to settle the question. If the urine is allowed to stand, and there is a deposit of blood on the bottom of the vessel, it will be easily detected ; if there is a deposit of such color as to leave us still in doubt, let heat be applied, and if the deposit is from blood, it will be hardened and become thicker ; if from any other substance, it will re-dissolve in urine on the application of heat. Where the quantity of blood discharged, is so great as to be trickling in drops from the urethra after the discharge of urine, or is discharged almost without the accompaniment of urine, there is no difficulty whatever, in deciding the nature of the case.

The causes of hæmaturia, are various ; the most frequent is the formation of gravel, either in the kidney or in the bladder. By the action of this gravel, either in the ureter, or in the passage from the bladder, a rupture of the small vessels of the part, frequently takes place, and is attended with the flow of more or less blood. But I think that the hemorrhage, from this cause, is generally small in quantity ; the more copious discharges of blood, which sometimes take place from the urinary organs, I suspect to depend on other causes ; but these causes are as various, as the causes of hemorrhage in general.

#### REMEDIES.

The acetate of lead has more credit for the suppression of internal hemorrhage, than any other remedy. It has accordingly, been given very extensively in this disease. Four or five grains of this article, may be given three or four times a day, if necessary ; but there is reason to believe, that a preference is justly due to tannin, or a concentrated decoction of oak bark, in this disease. If the tannin is at hand, it may be given in doses of from half a grain to a grain, several times a day. If the decoction of oak bark is to be used, it is not very material what kind of oak is used, the decoction should be made strong, and used in doses of about a table spoonful. These remedies have proven very efficacious in these disorders, and the reason given for it by chemists, is, that this article passes into the blood, unchanged, and thus finds its way through the kidneys, into the passages, through which the urine is discharged ; its application to the bleeding surface is, therefore, perfect. There are some cases in which the flow of blood into the bladder is very copious ; and instances have been known



of its becoming coagulated, so firmly as to render its discharge by the patient impossible. This coagulum is removed by the introduction of a catheter, and forcing through it, jets of water, till the coagulum is broken down, and thus placed in a situation, that it may be discharged. This operation will, of course, require the hand of an experienced surgeon.

The gravel, and other diseases which have been suggested as the ordinary causes of bloody urine, need not be treated of here. They have been discussed under their proper heads.

---

### INFLAMMATION OF THE THROAT, QUINSY—CY- NANCHE.

The importance of the diseases of the throat, has given rise to a classification of them, which would, if followed, lead us into details more extensive than useful, and altogether beyond our limits. We shall therefore content ourselves with a short and practical essay, which may serve to direct to proper remedies in the cases most frequently met with.

Every organ connected with the throat is subject to inflammation, which tends in some instances, to ulceration ; in others, to suppuration ; and in others, to gangrene. These disorders have borne the common name of quinsy ; but this term is not applicable to any particular variety. They sometimes arise from exposure to cold or other common causes of inflammation ; but they are more frequently epidemic, prevailing generally from some unknown cause, without any regard to the sensible qualities of the air. And it is worthy of remark, that when the disease becomes thus general, it assumes a common form, each case seeming to attack the same organs, and to produce the same character of disease ; whether it be a mild inflammation or a gangrenous sore throat. I shall mention only three varieties of this disease.

1. The most common form of this disease, is an inflammation of the pharynx or common sore throat. It comes on with a slight degree of fever, with chilliness on exposure to the cool air ; and a soreness of the throat, which renders swallowing painful. If the parts become much swollen, fluids are swallowed with difficulty, or returned by the nostrils, when an attempt is made to swallow them. On looking into the throat, the soft palate and parts adjacent to it, will be found reddened and swollen, in proportion to the extent of the disorder. This

form of the disease usually terminates in four or five days, without producing worse symptoms.

#### REMEDIES.

If the fever is considerable, and the difficulty of swallowing great, and especially if the patient is subject to frequent attacks of the disease, an emetic should be given without delay. If the case is at all serious, tartar emetic or antimonial mixture should be preferred. A prompt emetic operation should be brought on. After this, astringent gargles may be used, two or three times a day. A decoction of red oak bark, or sage tea, with a small portion of alum in it, will answer every purpose. Few cases of this disorder, will require any further treatment.

2. A more violent inflammation takes place in other cases. The disease involves not only the lining membrane, but the substance of the soft palate and tissue surrounding the throat. This inflammation tends to suppuration; it is a serious disease when it attacks principally the soft palate or back part of the throat, where it often produces suppuration. When it attacks the sides of the throat, between and below the angles of the jaws, it is still more alarming; frequently causing suffocation and death in a short time. In the worst cases, there is no hope except from an operation to open an orifice in the wind-pipe, through which breathing may be carried on, till the swelling subsides. I have never, except once, found it necessary, to resort to this remedy. The swelling of the throat renders the operation difficult, and a good surgeon should be called to the task. When the disease is less violent, and admits of more moderate treatment, suppuration sometimes takes place, and admits of an external opening for the discharge of the matter.

#### TREATMENT.

This form of quinsy is to be treated as a common inflammation. Bloodletting should be resorted to, early; and if the patient can swallow, give an emetic of antimonial mixture. This should be followed by a full dose of calomel. Cold applications should, at the same time, be made to the throat. These remedies should be promptly and vigorously used, till the swelling ceases to increase; after which, time must be allowed for the disease to subside, or for the suppuration to take place, if it has not been prevented.

3. The third variety of this disease is attended with ulcera-

tion, and sometimes gangrene of the throat. This form of quinsy, has been termed putrid, malignant, gangrenous, and I know not what else ; but it matters little what it is called. The disease makes its appearance with fever, attended with great prostration of strength, rapid pulse, and great swelling, and soreness of the inner surface of the throat. In a day or two, the breath becomes exceedingly offensive ; and on examining the throat, it will be found already extensively ulcerated. Sometimes there will be spots of mortified flesh not yet thrown off ; but commonly the ulcers will be deep, ragged, and foul, in a high degree. The countenance of the patient is haggard, the extremities cool ; and sometimes, the circulation in the skin, so languid, that the whole surface will have a tawny color, and a spot on which pressure is made, will remain white for a minute or more, before the blood will again fill the veins and restore its color. These symptoms belong to diseases of malignity and danger ; and these cases are frequently fatal. These symptoms so closely resemble certain cases of scarlet fever, that I should not always be certain whether they had not arisen from that disease. The treatment of the two diseases is the same.

#### REMEDIES.

If any disease requires the presence of an experienced physician, it is this. The treatment is by no means agreed on ; and when the disease comes on with malignant symptoms, there is but little hope. If called on the first or second day, and the prostration of strength is not very great, I advise a prompt dose of tartar emetic. This having operated, give two grains of opium with ten grains of calomel ; and apply a blister to the back of the neck. If the pulse is strong, and not very rapid, and the countenance florid, the opium should be omitted ; and if the calomel does not operate in four or five hours, give a moderate dose of castor oil. Few cases of this disease, will admit of the further use of evacuating remedies of any kind. It may be safely concluded, that after the third day, the patient will require all the support which can be given him. The remedies I have used, are principally opium and quinine. Three grains of opium and ten or fifteen grains of quinine, divided into six doses, may be given in the course of twenty-four hours. To this may be added brandy and water, according to the degree of prostration which may be present. A diet as rich and nutritious as the appetite of the patient will receive, will also be proper.

The local treatment of the ulcers in the throat is simple, but important. Many astringent gargles have been recommended; but the decoction of oak bark, or sage tea, with alum dissolved in it, are as good as any other. The use of these should not hinder the application of stronger styptics to the ulcers. Undiluted muriatic acid applied with a small mop, or camel hair-pencil, has been highly spoken of. I prefer, however, the application of lunar caustic in substance. This is easily done where the ulcers can be readily seen. But a strong solution of this article, in water, thirty grains to the ounce, may be used with a pencil, as above directed for the muriatic acid. This application may be repeated daily, till the dark and ragged appearance of the ulcers passes off, and they assume a red color.

---

### INCONTINENCE OF URINE—ENURESIS.

It is the office of the bladder to retain the urine for a time, so that its discharge may be effected at a convenient moment. When this discharge is involuntary, it constitutes incontinence of urine. This disorder is of various degrees of intensity. In its mildest form, the urine is discharged during sleep; but can be controlled by the voluntary powers when the person is awake. This is common in childhood, and not a subject of any uneasiness, unless it occurs in children of four or five years old. A stronger case of this disorder is marked by the ability of the patient to retain his urine only for a very short time, when the small quantity which may have accumulated, flows involuntarily, if not allowed to pass willingly. A still worse case, is that which allows of no detention of urine in the bladder; the fluid passing off, drop by drop, as it is formed.

The resemblance of urine to water, makes it rather hard for us to conceive of its offensive and excrementitious character. When retained about the person, it soon produces a putrid and ammoniacal smell, which is in a high degree offensive; and any part of the body kept moist with it soon becomes ulcerated and painful. He is, therefore, truly unfortunate, who is the victim of such an infirmity.

Incontinence of urine may arise from a great variety of causes. The worst cases are brought on by injuries to the bladder and urethra, from wounds or surgical operations. The milder cases are those attended with a flow of urine during sleep. These are common in childhood, but sometimes extend to youth and even maturity. They are often the re-



sult of the neglect of mothers and nurses, who take no pains to hinder children from going to bed without discharging the urine which may have accumulated ; and thus almost force them to discharge it while they are in a profound sleep. The habit of childhood, which is thus formed, is confirmed in those who are not easily aroused from sleep, and I have seen such cases exceedingly annoying in youth.

#### REMEDIES.

When the patient is wholly unable to control the discharge, from weakness or torpor of the urethra, remedies should be used to excite the part. Blisters on the loins, or on the inner parts of the thighs, are worthy of a trial. The internal use of tincture of Spanish flies, may be made in small doses for several days, till a heat and burning pain is felt from the passage of the urine. I have given spirit of turpentine, in doses of ten drops, three or four times a day, with as much benefit. There are cases in which all remedies are of no avail ; and the patient is left to choose some one of the many contrivances which have been made to dispose of the urine, in the least offensive way. The cases which occur in children, and affect them only in sleep, are seldom beyond the hope of benefit from proper remedies. The first rule to make with such children is to be sure that they evacuate the bladder immediately before going to sleep. If this does not answer, let them be aroused and caused to make the necessary evacuation before it happens of itself. This should be done in a manner to arouse their sensations to perfect wakefulness ; for there are cases in which a profound sleep is more in fault than any thing else. A perseverance in such management will often succeed better than remedies of a different kind. We are charged against using remedies in these cases which increase the flow of urine. This rule has its exceptions. I have given a few drops of spirit of turpentine, at bed time, with manifest advantage ; and I have used tincture of Spanish flies in the same way. I have no doubt that the acrid urine produced by these remedies, tends greatly to arouse such patients to the duty of rising to discharge the urine which they might otherwise pass in bed.

---

#### WHITE SWELLING.

The term white swelling is in the mouth of every one, but if I am asked what disease is signified by this title, I shall

not find a ready answer. The swellings which I shall describe under this title arise from the diseases of the bones or cartilages.

The white swelling which I have most frequently met with, attacks and destroys the solid bone, as gangrene destroys the softer parts. It is most common in the tibia or shin bone, which it sometimes destroys in its whole length but never extends to the joints. It also attacks other bones, and I do not know that any bone is positively exempt from it. The disease in its commencement is very painful, attended with fever and swelling of the part but without the redness which attends a common inflammation. The leg when thus affected is swollen in its whole length, and has a shining white appearance which has given to the disorder its name. The inflammation and fever continue for three or four weeks, when a copious suppuration will be found to have taken place. The matter will lie near the bone and when it is discharged the bone if examined with a probe will be found exposed and bare. A tedious process of exfoliation separates the dead bone, and after it is removed the place is supplied in a wonderful manner with a new bone, which is a good substitute for the old. Thus terminates this variety of white swelling.

The next variety of white swelling attacks the joints or rather the ends of the bones of the great joints. It seems not to attack the smooth surfaces or cartilages of these joints. A slight enlargement and moderate pain in the joints will be first noticed. By degrees the pain grows worse, the bone enlarges and the joint become stiff. This stiffness is not from adhesion of the bones, but from mere distension of the part. Ill health and great lameness attend it, but no exfoliation or suppuration takes place and the patient is sometimes left for life with great lameness and deformity. The skin over this swelling is of its natural color.

A third variety of white swelling attacks the cartilages of the joints. This in the outset resembles rheumatism, but the pain is less intense. After many weeks the cavity of the joint affected is filled with matter which bursts forth, if it is not punctured, and discharges a large quantity of glairy matter mixed with pus. I have seen a boy of twelve years old, with both wrists, and both ankles, discharging largely from this disease at the same time. This disease may continue for a great length of time. In its ordinary course it admits of relief, only by an ankylosis or growing together of the bones, producing a stiff joint.

These diseases have a strong resemblance in the slowness of their progress and the difficulty of their cure. They produce the same pale and cadaverous hue, and the health of the sufferer is much the same. They are commonly thought to arise from scrofula, but I am not prepared to support the opinion.

#### TREATMENT.

The treatment which is proper in each of these varieties of white swelling is very much the same. The disease in the outset is inflammatory, and requires active remedies. A cathartic of calomel, followed if necessary with castor oil, should be first given. If the fever continues, give antimonial mixture three or four times a day in such doses as the stomach will bear without producing vomiting. Continue this according to circumstances, but do not push it too far, as it is not probable that the disease can be stopped short of its destructive work on the bones or joints. The strength of the patient must therefore be preserved, that he may sustain himself well in a tedious complaint. If the case ends in suppuration the depleting remedies should be suspended, and openings made for the discharge of the matter. If the swelling continues without any discharge of matter the patient at last becomes exhausted and requires remedies of a tonic and supporting kind.

There is then in all cases of white swelling a second stage, in which every means of support should be extended to the patient. A generous diet should be allowed and a portion of brandy given at meals. This should be in small quantity at first, but may be increased to a table spoonful twice a day if it does not cause a manifest rise of fever. If great exhaustion comes on, from ten to twenty drops of muriated tincture of iron may be given twice a day. Tincture of gentian or other vegetable bitters may also be tried. The tedious nature of the disease will give ample time for the trial of these remedies. The time at length arrives, when the case must be turned over to the surgeon. When the disease of the joints threatens life, from the excessive discharges it gives rise to, the amputation of the limb becomes necessary. In other cases large portions of bone become detached and require extraction. These operations require skill, judgment and experience.

## GOITRE—BRONCHOCELE.

This is a disease of the thyroid gland—a body of considerable size extending across the throat, the uses of which are unknown. The disorder in question is a chronic enlargement of this gland—sometimes continuing from youth to age, without producing any dangerous symptoms. In other instances, however, the enlargement becomes so great, that its pressure on the adjoining organs is felt with great inconvenience, and it has at times produced death. I have witnessed one case of death from the pressure of this enlargement, on the trachea. In another instance I have found it produce death in an old lady who had had it from her youth; but at last an inflammation took place which ended in mortification; and, after the sloughing out of almost the whole gland, she expired.

The causes of this disease are involved in great obscurity. In this country, it must be considered a rare disorder; but in certain mountainous countries, Switzeland and some others, the disease is common. But the investigation which has been extended to this subject has not enabled us to assign the reasons of its prevailing in one country more than another. Its attacks are principally made on the female sex. I do not recollect to have ever seen it on a man. In countries in which it prevails as an endemic disease, it produces, in some instances, a remarkable change in the powers of the body and the mind. Persons thus affected are said to be attacked with cretinism; and this disorder appears to be capable of being propagated from one generation to another. Cretinism has never been known to appear in this country. It produces almost an entire destruction of the mental powers.

## DESCRIPTION.

Goitre usually makes its appearance by a very gradual enlargement of the thyroid gland, sometimes on one side only; but, more commonly, both sides are affected at the same time. The tumor is soft and flab by, producing neither pain nor uneasiness; but from its growth, soon becomes a matter of attention and uneasiness to the patient. When left to take its own course, its growth is usually continuous; and so large does it become, that, in many instances, it fills the whole throat, so that the chin rests on the tumour. More commonly, however, the enlargement is greatest at the sides, and the chin is left free in its movements. This enlargement becomes inconvenient from its size; but the health of the patient, although it sel-



dom appears to be robust, is not destroyed. In this state, the progress of the disease may continue for an entire lifetime. The swelling is, however, subject to attacks of inflammation; and, as I have mentioned above, I have known one instance in which this inflammation ended in mortification and death.

#### TREATMENT.

I will not detain the reader with an account of the various modes of treatment which have been adopted in this disease. It is conceded that it is not a fit subject of surgical operations. Two medicines alone have seemed to operate as curatives of this disease; and these, as chemistry has, of late, decided, both contain the same element. The first of these remedies is sponge, which physicians were in the habit of partially burning or charring, so that it could be reduced to powder, and given in doses of ten grains, two or three times a day. This remedy has, unquestionably, produced cures, in many cases; of goitre. Iodine is the next remedy entitled to notice in this place. This remedy exerts a manifest and absolute power over goitre. Applied externally, or taken internally, the disease in almost every instance gives way and is cured. In my own hands it has almost always produced the removal of the disease in a short time; and so superior is it, to all other remedies which have been discovered, that no other remedy is thought of in ordinary cases of goitre. The preparation which I have used is a tincture of iodine made by dissolving forty grains of this substance in an ounce of alcohol. If the alcohol is not good, the solution will be imperfect and have the appearance of being muddy. In this event the quantity of the alcohol should be doubled, and the dose given also double. The dose of the tincture I have recommended, is from ten to twenty drops, in water, twice a day. This dose is almost as much as can be very safely advised. Sometimes it produces tremors, sneezing, giddiness and other nervous symptoms, which require that it should be laid aside for a time or the dose lessened. In either event it should be continued until the whole ounce is taken, by which time probably the swelling will be very much reduced or entirely gone. After this quantity is taken the patient should pass some time without the use of the remedy; for it is one of those articles which is said to produce alarming nervous disorders, when too long continued at one time. In my hands, however, it has proved entirely safe and manageable. Another preparation of iodine has it advocates; and I am disposed to think it fully as good, if not better than

the one I have recommended. This is the hydro-iodate of potash. Take of this substance sixty grains, and dissolve it in two ounces of water. The dose of this solution will be from ten to twenty drops, and should be regularly given under the same regulation and advice with the tincture above recommended. The local application of this remedy has been very beneficial in my hands. Where the tumor is large, and has been of long standing, I have been in the habit of having the same tincture applied over the tumour at the same time that it is given internally. A feather dipped into the solution and passed rapidly over the surface until it is brought to a deep brown color, is the mode in which I have been in the habit of applying it. The application is to be continued only for a minute or two; for it will speedily cause blistering, and a destruction of the surface if continued longer. But should it produce blistering, no uneasiness need be felt; for the blister will heal with great readiness, without requiring any dressing. If the pain produced by the application I have advised, is very great, and the patient is apprehensive that its effects may be too great, the application of starch, or any poultice of flour will speedily destroy the effect of the iodine. And here let me observe of this remedy, that starch is the great test of its presence; for it combines with it so rapidly that every care must be taken that it is not allowed to come in contact with it even in the stomach. The doses which have been recommended, should therefore be taken mid way between the taking of meals, when there is every reason to believe that the stomach contains no undigested food, and that there will be time for its absorption from the stomach before food is again taken. I will add that medicine has made few triumphs equal to the discovery of a remedy for goitre. So certain and powerful is this remedy for the removal of this disease, that it is, every way, entitled to be considered a specific; and it is on facts like these, that we found the rational hope that the most painful and destructive disorders now affecting the human race have, in nature, their antidotes and their remedies; and that science will, in time, bring them forth.

---

## DISEASES OF SENSATION.

EXCESSIVE SENSIBILITY—HYPERAESTHESIS.

SLEEP WALKING—SOMNAMBULISM.

MESMERISM—ANIMAL MAGNETISM.

The very mention of these subjects will excite against the

author a strong prejudice; and this prejudice, I apprehend, will be found in the highest quarters of medical authority and literature. I would willingly have avoided the theme, but accident has placed under my observation certain facts, which I do not feel at liberty to withhold. Somnambulism, or sleep-walking, has long been known as a disorder; but I think I am not mistaken in the opinion, that the most talented medical writers have rather chosen to avoid, than to attempt its elucidation. The experiments of Mesmer opened a new field of investigation, which all will allow has a close connection with this subject. I need not mention the manner in which he was put down in his day; but some of the facts which were brought forth by these experiments, have remained, as it were, a seed of investigation, which has vegetated and flourished in our day. There is no longer a doubt of the existence of some of the powers that were claimed by Mesmer. But to what extent they exist, or are capable of being carried, time alone will inform us. Some of these facts have presented themselves to me, in a way which is so connected with several diseases I have met with, that I feel bound to present them in that connection. Of one of these disorders, which I have characterized as an excess of sensibility, I have seen no account in medical writers; I shall therefore attempt an account of it, as it has presented itself to me. But I am far from desiring to attempt an investigation of these obscure subjects, I shall present facts which I have seen, and content myself with the shortest account I can give of them. These disorders are attended with an altered state of sensibility, involving both body and mind in some of the strangest phenomena which have been witnessed. I shall treat of them in the order in which I have set them down.

#### EXCESSIVE SENSIBILITY—HYPERAESTHESIS.

I have said that this disease has not, so far as I know, been described by medical writers. It is true we meet with accounts of excessive sensibility; but the disease, of which I have undertaken to give an account, presents a sensibility altogether novel in its character—a sensibility, in which contact is not necessary to produce sensation. I shall find it easier to make myself understood, by giving the symptoms of several cases which have occurred in my practice. I shall not detail them separately, for the resemblance of one to another has been so close, that I think it wholly unnecessary.

I may premise, that the subjects of the three cases of this

disorder which I have witnessed, were females in the prime of life ; but neither of them has ever had, so far as I know, any hysterical disorder. The disease I am now to describe began with a light degree of fever—attended with headache, cold extremities, small feeble pulse, and a determination to lie covered in bed. The tongue was white in the centre, but red on the edges, as in some cases of typhus. A disinclination to submit to examination by the touch was evident from the beginning of the attack. The hand which was offered, that the pulse might be felt, was withdrawn as soon as possible ; and it was evident from the agitation, constraint, and hurried breathing, that this was a painful operation.

In a day or two, these investigations became difficult or impracticable. The patient would no longer yield her hand, that the pulse might be felt ; but would hide under the bed clothes, and retire as far as possible. But after a moment's reflection, she would make the strongest efforts to submit to the necessary examination. She would voluntarily offer her hand, but if the disorder at the time was considerable, she seemed incapable of allowing it to be touched. I have seen a quarter of an hour consumed in violent struggles by the patient, to lay hold of the physician's hand. This she would at last accomplish, with such an effort as might be made to sieze an angry serpent ; and when it was accomplished, the hand would be held with as deadly a grip. This seemed to afford some relief, and to render further investigation more practicable for the time.

In the course of a week, the sensibility of these patients, became so disordered, that examinations by the touch were impracticable. They could not bear the wrist to be taken hold of, or allow the hand of any person to be brought in contact with their fingers' ends, the pit of the stomach or the back, especially about the lowest ribs. The shock which would be produced by the physician's applying the fingers of one hand to the pit of the stomach, and at the same time the other to the spine, can hardly be conceived. From every appearance, it produced more pain and alarm, than the thrust of two daggers into the same parts. The most violent convulsions were several times brought on by such experiments. This extreme sensibility seemed to be confined to the epigastrium and spine ; but no very great excess of sensibility extended to other parts of the body ; and the hands were at times scarcely less sensitive, than the parts I have mentioned.

At an early period of these investigations, I discovered that these violent sensations were capable of being excited, without



actual touch, or contact with the patient. This I had previously witnessed in tetanus, where I had seen violent convulsion excited, by the noise of pouring water, or the motion of a fan before the face of the patient. But these consequences I then attributed to the excited fears of the patient in a situation so horrible. In the cases now under consideration, a broader field of investigation was opened. The approach of the hand of the physician to the epigastrium or spine, was felt at a distance of two feet or more. She would perceive it, and, as it approached, recoil, or spring from it with horror. It mattered not whether the hand was seen, or the patient knew it was about to approach. The profoundest sleep did not hinder the effect. I have tried every device, to approach unseen and unknown; but the patient would never fail to detect it, the moment I came within two or three feet. Others, in my absence, made the same experiments, with the same results. Other substances besides the hand, could be brought in contact with these parts, before the shock was produced; but when the disease was at its height, the slightest touch, even with a feather, or bit of muslin, produced the shock.

I made many experiments to test the character of the pain felt from these slight touches or approaches. On placing my hands together, and approaching the epigastrium with my fingers, the patient would feel suddenly a rush, as of steam or heat. As I came near, this sensation became strong and insupportable; and she would attempt to fly in great consternation. Neither of them could give any farther or better account of the pain.

Dejection and deep melancholy pervaded the minds of these patients. They were, however, quiet, and never became convulsed, except when excited by some touch or approach from others. These convulsions were commonly partial; but in a few instances, general, like epilepsy. In one instance the powers of life seemed to be actually extinct; but, after a few minutes, returned. When the disease was very strong, the patient could not bear her own hand near the pit of her stomach; but would lie on her back with arms extended.

The shocks and excitement, produced by the touch in these cases, resembled the operation of electricity; but the effect of thunder and lightning was awful to these sufferers. It was witnessed in two only, the third case having occurred in winter. I had several opportunities of witnessing the effects of thunder, on one of these patients, who was a house servant, and lived near me. In her, the low sound of distant thunder,

excited the greatest fear. As the cloud approached, she would run under the bed, and wrap her head in a blanket. In several instances, she had made good her retreat before any one else discovered the lightning, or heard the thunder. In the other case, it happened that several violent thunder storms occurred while she was at the worst. The approach of these clouds seemed to aggravate her disease. She could not bear the approach of any one, and hid herself in bed. When a violent peal of thunder happened, she would spring up and attempt to fly. Not daring to come in contact with those who opposed her escape, she would spring on the bed, and there stand, with outstretched arms, and eyes rolling, as the vivid lightnings flashed, and the pealing thunder rolled. No pen can describe the terrible sublimity of her gestures, or the horror which was depicted in her countenance. The scene was only ended with the cessation of the lightning. She would then resume her place in bed; but with no improvement in her symptoms.

There was, during the whole progress of these diseases, more or less fever. It varied in degree, at different times, but could not be said to be in paroxysms. It appeared to rise to a certain height, where, for a time, it remained; and then gradually declined to its termination. The duration of these cases, was from six weeks to three months. The recoveries were gradual; but they have all recovered.

#### TREATMENT.

It cannot be expected that with so little experience, I can offer, with any confidence, a plan of treatment in this disease. I have witnessed but three examples of it; but as these cases have all terminated favorably, it may not be improper, that I should give an account of the remedies which I used. In the commencement, I administered full doses of calomel, which were followed by Seidlitz powders or castor oil. This seemed to produce no beneficial effect; the next day, the symptoms were rather worse, than better. The antimonial mixture was now given, to operate as an emetic, and continued, in small doses, so as to produce nausea, for two or three days. No sensible benefit was derived from these remedies; the fever continued, and the diseased sensation was rather worse, than better. Anodynes were next resorted to; and these produced effects more satisfactory. Fifteen grains of Dover's powder, given once in twelve hours, gave considerable relief. This

remedy afforded very great relief for a time; but it was found necessary to repeat it, after the lapse of ten or twelve hours. This and other anodynes, used in a similar manner, constituted the whole treatment which appeared to me beneficial, in two out of these three cases. But the third presented symptoms a little different; and was treated with some better success. In this case, the disease had something like a daily paroxysm, which came on with some regularity, producing a sudden and violent aggravation of the symptoms. These paroxysms were resisted by the use of quinine, given in combination with morphine or laudanum. Four hours before the expected paroxysm, fifteen grains of quinine were divided into four doses, and one given hourly, with from ten to fifteen drops of laudanum, till all were taken. This did not arrest the paroxysm, as it would have done in ordinary chill and fever. But its effects were obviously beneficial; the course was persevered in, and the case terminated in a manner more satisfactory, than either of the others. Several attempts were made, to introduce quinine into the treatment of those cases, which occurred without the occurrence of paroxysms. I perceived no benefit from this remedy, and therefore abandoned it. I ought perhaps to state, that a fair trial was made with oil of amber, tincture of castor, assafoetida, and other remedies which are usually beneficial in hysterical disorders. They appeared to be of no benefit whatever. I therefore fell back on the preparations of opium, which gave manifest relief, and I think were of very great service.

#### SLEEP WALKING—SOMNAMBULISM.

The disorder which has obtained the name of somnambulism, resembles any thing as much as sleep. It is true the eyes are closed, or not used for the purposes of vision; but the mind is always active; and, during the time the disorder lasts, appears to be much excited. Although the eyes are not used for the purposes of vision, there are, somehow, supplied to the patient, the perceptions which vision can afford; and under circumstances so strange and unaccountable, that they have been a subject of wonder to the learned, for many ages. I have not undertaken to write an essay on this subject; but barely to introduce a case which has occurred under my own observation—an account of which will explain most of the phenomena which have been witnessed in this strange disorder.

Mary Rogers, a healthy child, ten years of age, was, on the

30th of May, 1848, attacked with sleep walking. About ten o'clock P. M., while asleep, she was noticed to be much disturbed. After making some noise, she arose from bed, with closed eyes; but returned, as if determined to remain. In a few minutes, she arose in great anger; and seemed to hold conversation with several persons who were absent. She soon became restless, active, and noisy, singing and dancing with great glee; and seeming to know the position of every thing around her, although her eyes were closed. After an hour or two, she was induced to take laudanum; and, at three o'clock, fell into a natural sleep, from which at nine o'clock the next morning, she awoke wholly unconscious of what had happened. This attack was witnessed by her near friends, particularly her aunt and uncle, in whose house she resided.

Symptoms of the same disorder were obvious the next night; but passed off without any thing very remarkable. On the following night—June the first, at ten o'clock, she was aroused from her sleep, laboring under this strange excitement. I was now present. She arose from her bed, and commenced gathering her books, talking loud and angrily, as if amongst those with whom she was daily at school. This she soon gave up, and commenced singing and dancing, or rather romping, and jumping, with frantic and ungoverned motions. In this violent exercise she continued, till so exhausted that she could continue it no longer. Several of the near neighbors came in, one of whom played on an accordion, for her amusement. Nothing could exceed the ecstasy she evinced at the sound of the instrument. Frantic with delight, she leaped and danced, but, with little skill, till exhausted she was compelled to stop. A few minutes' rest, and she was again on her feet, running from place to place, gathering up her books, or her clothes, and holding on to them with great tenacity, till she was too much encumbered to continue it longer. From this state, she awoke about two o'clock A. M., and looked wholly bewildered and surprised, on beholding several persons who had gathered around her to witness the scene.

The next night, she ran into the same state, about the same hour. The notoriety of her case had attracted many persons, who were present and waiting. She was now more tractable, and the anger and violence of the previous attacks, were less obvious. She recognised all her acquaintances, and seemed to attach herself to her uncle and her aunt, and would not be satisfied without the presence of one or the other. Her state was one of great excitement. Nothing could less resemble



sleep, except that her eyes were closed. She was as busy and bustling as could be conceived; running from place to place, down the stair case, around the house, or in any other direction, according to the whim of the moment. She refused to be controlled, even by her uncle whom she would not leave, except for a moment at a time. But music and dancing were her greatest delight; and a good performer on the violin was induced to play for her. At the sound of the instrument she sprang on the floor and lost sight of every thing else. Her movements were now entirely changed; they were in a high degree graceful and elegant.

Her passion for dancing soon brought her mind to perfect harmony with all its common rules. On hearing the violin she would hasten to her room to change her clothes for her most elegant attire. She would return in great haste and demand a partner, in which she was sometimes gratified. Conscious that there was respectable company present, she would preserve the most perfect decorum, and dance with great spirit, longer than any one who could be induced to engage with her. The ease and elegance of her movements, after two or three nights of practice, were a matter of the more astonishment to me, when I learned that she had never seen any one dance in her life. In this state of excitement she would continue for five or six hours when she would awake, and soon afterwards fall into a natural sleep for the rest of the night.

These scenes were repeated from night to night; and for ten or twelve days her disorder became worse. She was evidently fatigued, and many times in the day time fell asleep, and in a few minutes passed into sleep walking. The regular returns of her paroxysms became known, and the house in which she resided was thronged with visitors, who came to witness her strange performances. At length it was apparent that she was rendered worse by over excitement, and she was refused the music which she had so much delighted in, and was placed as much as possible in a retired situation. By degrees her paroxysms became lighter, and in about two months ceased altogether. She is now November 20th, 1848—in good health, and seems to have grown and improved as much as any child of her age. Her complexion, actions and appearance, denote the highest and most perfect health.

Probably no case which has been published, has afforded the opportunities of investigation, which have presented themselves in this case of Mary Rogers. The facts which it has established beyond controversy are these.

1. While in the state of sleep walking, her eyes were firmly closed. On opening the eye lids with my fingers, to which she always consented, her eyes were found turned up toward the brows with a fixed and immovable force.

2. Her knowledge of persons was the same as when she was awake, and she could hold conversation with them, with all her intelligence. She could make new acquaintances, which she would know again in her sleep walking state, but not when awake. But the acquaintances she made while awake, she would recognise when in her somnambulism. Her antipathies and her affections were fully preserved, and her dependence on her uncle and aunt for protection, seemed always present to her mind.

3. Although her eyes were closed, and often bandaged for the satisfaction of visitors, she had a power of perception answering all the purposes of vision. This power was sometimes greater than at others, but always present. She would walk securely through a door, around a chair, or hat set in her way; or down or up stairs, or to any part of town, and all this as safely in the darkness of night as in the day time. She would recognise her acquaintances at a distance, and know them as far as the sharpest sighted person, and this she could do in the night when others could not. She could discriminate colors as well as any one; and what was more surprising, she could tell the color of any thing she touched. This was proved in many instances. She appeared pleased to put her hand behind her, and tell the color of any thing placed in it. A flower, or a piece of cloth, however varigated or mixed she would describe accurately. Gold and silver jewelry, with their various stones or diamonds, she would describe with great exactness, never mistaking gold for silver, or missing the color of the stone or diamond. This she could do in the dark as well as in the light. In several instances she read printed characters by passing them through her fingers, but refused to try it afterwards. Being asked how she could see, she pointed to her eye brows, the pit of her stomach, and the balls of her thumbs, these said she are my eyes. On being requested to point out any person with whom she was acquainted, she would turn her face towards them and if they were in a crowd of persons point to them with her fingers. Sometimes she would seem uncertain of having succeeded, and go to them to feel their clothing and faces with her hands; when she would decide with perfect confidence, and uniform success, who it was. No

bandages over her eyes, seemed to form the least impediment to her success.

4. Her senses of taste, hearing, and smelling, were unimpaired. She appeared to enjoy the flavor of a nosegay, or the taste of an apple or peach, as well as any one, and her love of music and conversation proved her hearing to be perfect. Her appetite for food was at least as good, when in this state, as at any other time, and she frequently ate her breakfast or supper while sleep walking. Of these meals she had no knowledge, when she would afterwards awake.

5. No force or violence which could be safely used, would arouse or awake her. Tickling, pinching, smothering, or throwing cold water on her, were ineffectual. She would recognise all these attempts, and appeared much amused by receiving a hand full of cold water on her face. "Try that again," was her common response. Having tried many of these experiments, I at last discovered, that the passing of my hands along the course of the spine, with or without touching her, produced a powerful effect. At the first trial she sprang forward and awoke in a moment. But it was near the time at which she was expected to awake. The next trial was made in the midst of the paroxysm. Expecting some resistance I had her held; but although I did not touch her, she screamed aloud, broke loose, and fled under a table in the greatest consternation. She was by this time awake, demanding to know how she was thrust under the table and by whom. The fear which this experiment produced was so alarming that it was never repeated.

6. For a few days of the time at which the paroxysms of somnambulism were strongest and most frequent, she appeared fatigued and dejected; but even this soon passed off, and, there remained not the slightest appearance of ill health or inconvenience of any kind. At the close of her disorder, Mary Rogers was in as perfect health as could be desired.

7. The sensibility which was aroused by passing the hands along the spine, continued during her waking hours. She could feel the approach of my hands at the distance of two or three feet, and whether asleep or awake never failed to recoil from them with great alarm. The same sensation was produced by standing before her and directing my fingers towards the pit of her stomach. At the same time, she would with great pleasure, take hold of my hands, lean on me, or allow me to take her up in my arms, provided I avoided bringing my hands in contact with the spine or epigastrium. This sensibility to the passing

of the hands along the spine, or approaching the epigastrium with the fingers has entirely passed off. On repeating the experiments a few days ago, they produced no effect whatever.

8. I was induced to try whether she was not a proper subject for the operation of animal magnetism. She gave her consent when awake, and I found that in four or five minutes, she was in a sound magnetic sleep. I made no attempt at experiments with her while in this state, and after about ten minutes removed the impression so that she awoke. She never again gave her consent to be placed in this state, and it has not been attempted.

I have dwelt long enough on this remarkable case of somnambulism. But it is due to the reader that I should state the particulars in which it differs from, or agrees, with other cases which have been reported. There is nothing new in sleep walking—cases of it have been recorded, more than two thousand years ago. And there is probably nothing new in any respect, in the case of Mary Rogers. But I know of no case, the most unaccountable traits of which have been so fully developed and undeniably attested; and some of the facts have at least remained unnoticed. Other somnambulists have performed in the dark all which they could have done in the light; others have performed works in painting, and composition, which they were unable to do in their waking hours; and others have heard sounds, taken food and sought in solitude their enjoyments; but it was reserved for Mary Rogers to play her part, as a social being, enjoying in this state, the society of others, extending her acquaintance, choosing her pleasures, improving her manners and acquiring new accomplishments. Our heroine alone, has with bandaged eyes, by day or night, perceived and known her acquaintances, at the distance of sixty or seventy yards: she alone has discriminated colors as readily by the touch as others by sight; and it is she only, of all the sleep walkers, who has demonstrated the perception of the hands of another when approaching, within two or three feet of her spine or epigastrium. These facts are new! Who can say they are unimportant?

#### MESMERISM—ANIMAL MAGNETISM.

It shall be my endeavor to treat of this subject, without giving any opinions of my own. It may not be amiss, however, to state, that I am no believer in the existence of a magnetic fluid in the human body. The phenomena produced by the



efforts of the mesmeriser, seem to me, to have no relation whatever with the common properties of matter. If there be in reality, a difference between the operations of the mind, and the common properties of matter, it is in these experiments that we are to expect it to be made manifest. That there is in truth such a difference, I have no doubt. Nor is it evident to me, that these phenomena are the same with those of which we have spoken in the articles on somnambulism, and excessive sensibility. The resemblance between mesmerism and these diseases, when closely investigated, will appear extremely remote. But I have said I would not dwell on the particular views I have of this subject, but present the facts I have seen.

Mesmeric sleep is brought on by the operation of one mind upon another. I believe that in the first instance, the person to be mesmerised, must consent to be placed in that condition. When this consent is yielded, the mesmeriser, by fixing his attention on the business in hand, and willing powerfully that his subject shall pass into this state of mesmeric sleep, accomplishes his object by powers of which he is himself unconscious. The position which he should occupy to the person over whom he is to exert this influence, seems to be a matter of no great moment. The attention of the person to be mesmerised, must be brought to the subject ; and this is accomplished in various ways. Some take hold of the hands, and by gently touching with very light friction on the thumbs, secure the attention of the person to be operated on. Others place in their hands pieces of money on which they desire them to look steadfastly. A few minutes is commonly a sufficient time to prove whether the mesmeriser is capable of inducing this extraordinary state. If the subject passes into the state desired, he will appear as if in a profound sleep.

In this state of mesmeric sleep the subject of the operation loses all sensibility to external objects, except such as are derived through the mesmeriser. Through his senses the person mesmerised, sees, hears, and feels. Through his own senses, he neither sees, hears, nor feels. There is no doubt of the fact, that the most awful surgical operations have been performed on persons in this situation, without their being conscious of it. I have seen many minor experiments made to test this question. I have seen a large pin thrust through the ear, and other injuries equally painful endured, without the slightest appearance of pain or any sensation whatever. At the same time, pluck from the head of the mesmeriser a single

hair, and the mesmerised would complain. Give him any thing to taste, and the mesmerised would taste : give him food, the mesmerised would appear to enjoy it fully as much as he did. Apply to his nostrils any thing odorous, and the flavor would be enjoyed ; give him snuff, and the mesmerised would be the first to sneeze. These facts I state from my own experience, having, in various instances, succeeded, by my own will, in placing persons in this situation, and having made all these experiments myself.

But the dominion of the will of the mesmeriser over the mesmerised, is perhaps the most astonishing of these developments. To his voice the mesmerised yields implicit obedience, and to his desires, though not expressed by voice or sound, or movement of any kind, he is equally obedient. If the mesmeriser, looking on the subject of his experiments, shall desire him to rise from his seat, he does so ; if to kneel and pray, or to do any thing the reverse of this, it will be instantly accomplished. And all this is done in a way wholly incomprehensible to the mesmeriser, and by an effort of his will, no greater than that which would have enabled him to accomplish the same thing himself. All these things I have tested in experiments that I have made myself. They are known to me by a testimony as high and convincing as the knowledge of my own existence. No one can in his own person, perform these experiments without knowing that they are true. The truth, then, of these strange facts, needs no broader or firmer foundation. He who reasons as if they were not true, will always be in the wrong.

This is a very small portion of the facts which I have seen shown by persons in the mesmeric sleep. I have arrayed them together as being the most convincing of the great fact of mesmerism. It may not be amiss, however, to mention some of the additional facts of which I am as well convinced, as of those I have already stated. This state of mesmeric sleep is capable of a great variety of operations. It can be rendered by the will of the mesmeriser, partial. He can take off from the eyes the appearance of sleep, and give to his subject the capacity of seeing, hearing, and feeling ; and yet all that he sees, and all that he hears, shall have to him the appearance, that the mesmeriser chooses that it shall have. He will, for instance, cause him to see objects which are not present. He will hold to him a hat, and tell him it is a basket of fish—desiring him to take hold of it ; and then tell him it is a basket of serpents—all of which the mesmerised will fully believe ; and

his actions will so correspond with this belief, that it will be impossible to doubt his conviction. Equally strange are the phrenological developments which are made in this state. Of these experiments, I have seen a great many. Bring the fingers of the mesmeriser in contact with those parts of the head which contain the organs of the brain pertaining to certain actions, and the mesmerised is instantly thrown into a great excitement in reference to that particular function of the brain. The variety, interest, and beauty of these experiments, can hardly be conceived.

The influence which is exerted over these persons, by the passing of the hands of the mesmeriser along their bodies, bears perhaps the nearest resemblance to a magnetic influence. By placing the hands on the head of the mesmerised, and passing them downwards towards the feet, over the muscles, a powerful contraction takes place, which, when carried over the breast and down the body, sometimes almost impedes breathing, producing the appearance of the greatest distress. The limbs, at the same time, become so contracted, that the subject is incapable of moving them; and in this state, the mesmeriser has it in his power to awake them, leaving them wholly incapable of moving. Yet from this state, the subject is released in a moment by a reversed motion of the hands, passing from the feet upwards above the head, as if it were to throw off from him a tangible fluid. This mode of releasing persons from a mesmeric sleep seems to be independent of the will of the mesmeriser. At least, I have found persons thus circumstanced to awake, from motions of this description, without any desire on my part that they should do so.

These phenomena differ very widely in different cases. Some subjects, when thrown into a state of mesmeric sleep, are scarcely capable of responding to any of the experiments which have been mentioned. All, however, seem to be capable of improvement, and when mesmerised from time to time, are constantly gaining in the power of exhibiting all the experiments, which are commonly practised in such cases.

If I am asked for what purpose is all this matter brought forth, I shall not find it easy to give a satisfactory answer. That facts so strange ought to be investigated, and if there is in them, any thing of good or ill, it ought to be made known to the world, appears to me to be self-evident. That this power, if it could be made more manageable, might be made an exceedingly valuable addition to our means of averting pain in surgical operations, there can be no doubt. That it is equally

capable of being used for averting pain from other causes, I am equally confident. To what other purposes of good it is capable of being applied, I know not. As a development of the power and attributes of the mind, there can be no doubt that this is by far the most interesting field which philosophy has in its custody. That it has developed the power of one mind to act on another, under circumstances, and to an extent wholly unexpected, no one can doubt. That some of the facts it presents, signify an operation of the mind wholly distinct from the ordinary operations of matter, seems to me perfectly clear. That the voluntary power of the mind, passes from the body of the mesmeriser, to perform, at a distance, its office, in that of the mesmerised, can hardly be questioned. I have sat in my place, at a distance of perhaps thirty or forty feet; looking at one who had been placed by my efforts in this condition. By my will she has risen; by my will she has kneeled; by my will she has prayed. What influence has passed from me which should induce these actions? Is it not a separate movement of the mind, passing from one body, through space, to another? And does not this go farther to prove a separate existence of the mind, than any other fact which has yet been elicited by philosophy? But the particular views I may have of this matter, are of little consequence. Mesmerism cannot be excluded from the healing art. Its existence and wonderful influence are not disputed. The most powerful intellect ought to be brought to its investigation. It is our duty to understand it.

While reading the proof of this article, I am presented with an essay in the Philadelphia North American, giving some account of the experiments of Baron Reichenback, of Vienna, "On magnetism and certain allied subjects." I had seen that the Baron had taken a place amongst the believers of the strange doctrines dimly shadowed by Mesmer and others. But Cuvier had long ago done the same thing; and even his great name had weighed nothing on this side of the British Channel. I was still left to fear, that the place I have ventured to assume, would be regarded as that which should be assigned to low credulity and ignorance. I am pleased that one of the lords of the newspaper press, has lowered the nostril of the sneerer, and consented to give to animal magnetism or mesmerism, a fair showing before his readers. This act of a popular editor proves a great deal to my mind. It satisfies me, that the enlightened citizens of Philadelphia, will no longer tolerate the attempts to put down facts known to every bo-



dy. No man who is ignorant of the great truths which prove the existence of the animal magnetism, need remain so a single day in Philadelphia. I think a new era has arisen. We shall soon see the great followers of public opinion on the right side on this question. I regret that it has not been in my power to inform myself better of the present state of this new science on the continent of Europe.

---

## DISEASES OF FEMALES.

Some of my readers will look with interest for my essay on the diseases of females; they will find it short, but I trust sufficient to supply the necessities of such as may not have it in their power to consult a physician.

Female diseases may be said to have no existence before the age of puberty. At this age the flow of the menses takes place; and, except during pregnancy, should return every lunar month, till the woman is past the age of childbearing. The period at which this discharge should appear, differs considerably in different latitudes. Between the tropics, it is expected at twelve years or sooner; and in high latitudes it does not appear till the twentieth year, or even later. In the latitude of my observations, about thirty-three degrees North, it appears from the thirteenth to the sixteenth years; and I have seen it a year or two sooner or later, without any appearance of ill health. The time at which the discharge should disappear, is from the forty-eighth to the fifty-fourth year, and there are some exceptions also to these periods of time.

The approach of puberty, is a period of anxious solicitude to mothers, who look on the uncertainty of its perfect establishment, with a dread which is little felt by the child, which is now to ripen into the functions, and bear the responsibilities, and it may be, the pain and sufferings of a woman. It is hardly necessary to solicit the watchful guardianship and care of mothers, to these tender and interesting objects. It may not be amiss, however, to say, that they should by no means allow the period of the flow of the menses to arrive without apprising the child of the change which she is to expect. I have known instances in which children thus arriving at maturity, have ignorantly sought in solitude the removal of the stains they saw, by plunging into cold water. The ill effects which have often followed such acts, ought to be known to every woman. Far from tolerating neglect at such a peri-

od, I have only to remark, that children at this age should be with their mothers or others who would take special charge of them. They should by no means be exposed to cold without sufficient clothing ; and the excitement, of social intercourse should be very much restricted.

The decline of the menses finds the woman with as much prudence and knowledge, as she is likely to acquire. She may not, however, be apprised that no medicine is required to be taken at such a time. She should avoid unnecessary fatigue, and allow to nature time for the cessation of a discharge, which has been so long established. If her health gives way, and especially if any disorder of the womb makes its appearance, she ought without delay to consult an experienced physician.

---

## SUPPRESSION OF THE MENSES—AMENORRHOEA.

Independent of the necessity of the menstrual flux, in the purposes of propagation, it seems impossible for the female to enjoy health, should it fail to appear at the time indicated by nature. When this time has elapsed without the appearance of this discharge, it has been termed a retention or obstruction of the menses ; when after the discharge has been established, showing that it is the effect of disorder, it has been termed suppression of the menses. The remedies applicable to these cases, are the same, except in a few cases arising from imperfect development or defective anatomical structure.

The suppression of the menses, when affecting young females, produces that peculiar disease, which has been known by the term green sickness. The patient becomes exceedingly pale, with great languor, listlessness, depraved appetite, indigestion, and palpitation of the heart ; a low degree of fever experienced for many hours of the day with pains in the limbs, and sometimes head-ache attends it. These symptoms continue for an indefinite time, sometimes for several years, in which case the health usually becomes worse and worse, to an alarming degree. When the disease has continued for some length of time, the tongue becomes foul, the breath exceedingly offensive, bowels costive, with very defective appetite, and great despondency in the mind. Hysterical symptoms commonly of a mild character present themselves. They are manifested by sudden attacks of palpitation of the heart, with the characteristic smothering or choking, as if a ball had arisen

from the stomach, and become fixed and immovable in the throat. As the disease progresses, the circulation becomes affected, the pulse which had been quick at first and without much extra force, becomes full and bounding, and the arteries are seen beating with great violence at the sides of the neck. These symptoms may occur in children too young to experience the menstrual flux. If in this climate, they occur to girls under fifteen years of age, they are to be treated without any reference to the function of menstruation.

#### CAUSES.

It will be in vain to dispute with women the destructive power of suppressed menses, and equally hard to make them conscious of the common fact, that the suppression is the mere consequence of ill health. The moment the menses fail to appear at their regular time, that fact is considered accountable for every other ill which attends it. This may be true in a few instances; the menses is sometimes suddenly arrested by exposure to wet and cold, during its flow. Sudden emotions of the mind have produced the same effect, and many other causes have probably led to the same result. Great derangement of the health, and sometimes painful aberration of the mind follow, and are kept up till nature is re-established in her regular periods, and then every symptom of the disease disappears; but these cases are rare in comparison with the great number of those who become first diseased, and have in its course, a suppression or retention of the menses. It may be added, that in a vast majority of cases, a retention of the menses is only an evidence, that the health of the woman is of a grade too low to admit of the propagation of her species. For the flow of a healthy menstrual flux, is according to the established law of nature an evidence, that the individual is in a state of capability for the propagation of the species. This it is evident, ought not to be the case when the body is too much diseased, and nature has accordingly provided for a suppression of the discharge under such circumstances. This view of the subject, should warn us against the interminable use of such remedies as are thought to force the menstrual discharge. They are at best, of but doubtful efficacy, and were they a thousand times more efficient than they are, and could they put it into our power to command at pleasure the appearance of the menses, we should be as far from having relieved many of these cases, as we should without it.

## TREATMENT.

It is obvious that we have not got merely the name of a disease to prescribe for, when the menses is retained or suppressed. When the disease has arisen from any sudden cause, and the patient has been previously in the enjoyment of good health ; and when from the circumstances of the case, there is no probability that an incipient pregnancy may have arrested the discharge, an active course of treatment for the renewal of the discharge is proper. The remedies should conform to the symptoms. If there is nervous excitement, it should be quieted by anodynes, thirty or forty drops of laudanum may be taken once or twice in twenty-four hours. If there is much pain in the loins with coldness of the extremities, the feet may be bathed in warm water at the time, and warm fomentations used over the region of the pelvis. If there is much pain in the head, bloodletting will be proper, and a cathartic administered, composed of ten grains of calomel, and ten grains of aloes, made into pills. Should the disease continue with more or less irritation, at the termination of a month, emmenagogues should be used ; sixty drops of the tincture of black hellebore, should be given in the course of the day for three days in succession. Pills composed of aloes alone, about four grains in each pill may be taken at the same time evening and morning. Ergot of rye has of late, been much used in these cases, ten grains of powdered ergot may be given three or four times a day. But all these remedies should be suspended if they are not successful in two or three days, for there can be no greater mistake than the protracted use of these forcing remedies, when the general health of the patient is in a state forbidding the menstrual flux.

Chronic cases of suppressed menstruation are to be treated with strict reference to the general health of the patient. The use of a forcing emmenagogue without a proper course of previous treatment, would be almost certain to fail of success, and should it bring on the discharge, the health of the patient will be quite as likely to be injured as benefitted by it. The symptoms of this disease indicating the greatest debility, and poverty of the blood in red particles, has pointed to the use of iron as the great remedy. This article has maintained its reputation in these disorders, and the confidence of medical men has been rather increased than lessened by the labors of chemists who have of late investigated the subject. Where there is great paleness of the face with debility, iron is the first reme-



dy ; the precipitated or red carbonate is one of the best preparations of this remedy ; but the brown carbonate which differs somewhat in its composition, but has been much longer in use, is probably as good a remedy. Ten grains of either of these articles may be given at a dose two or three times a day. It may be made into pills in combination with white ginger or other agreeable spices. In either of these forms, the remedy may be continued for a considerable length of time. Where the bowels are torpid, they may be acted on by aloetic pills given from time to time as the case may require. Where there is good reason for believing that the liver does not perform its function well, calomel or blue pill may be administered. Four grains of blue pill may be taken in a pill at night for six or seven nights in succession, but must then be suspended where it is thought advisable to avoid a salivation.

The prostration of strength, paleness and bloated countenance do not always signify the absence of inflammation. On the contrary, even where patients are very low, if there is considerable pain in the head, with burning feet at night and great restlessness ; remedies of a more active kind, are to be administered. Blood should be drawn from the arm in small quantities at intervals not very distant ; eight ounces of blood may be taken in this way twice a week, and a brisk cathartic of calomel and jalap may be given at the same time. These remedies may be repeated according to circumstances, and it requires great judgment to know when they should be suspended, and the tonic plan above recommended, adopted. No certain rule can be given for this ; but close observation and diligent attention, to the beneficial effect of the remedies used, must direct us in their continuance. In many instances, it is best to persist in the use of the depleting and cooling treatment, with a very low regimen, till all symptoms of fever have disappeared ; and then to rely on a gradual increase of nutritious food with moderate exercise without any stimulating or tonic remedy whatever.

---

### EXCESSIVE FLOW OF THE MENSES—MENORRHAGIA.

Every woman is conscious that she can not have health without a regular discharge of the menses ; but what the amount of this discharge shall be, to enable the individual to continue

in health, is very uncertain. In some persons, the flow continues for six or eight days, involving a discharge of several pounds in the time, without appearing in the least to interrupt the regular, healthy functions. In others, the discharge will be limited to a day or two; and in its amount not extend to the tenth part of what I have mentionéd; and yet the individual preserve uninterrupted health. It may be considered as a general rule, that those in whom the discharge continues from two to four days, enjoy the best health. It may be observed, that those in whom the menstrual discharge is considerable, are generally very delicate, and commonly lean: those in whom it is less, are apt to put on more flesh, and to wear the appearance of higher health, but to this rule there are exceptions.

When the discharge of the menses from its excess, or long continuance, produces manifest debility and disorder, it becomes a disease worthy of attention. When the excess is very great, the disorder becomes more alarming; and, in many instances, seems to lay the foundation of fatal disorders. The time of life at which this disorder may happen, is uncertain. I have seen it occur to young girls on their first menstruation. More commonly, however, it happens to married women, who, from some cause, fail to become impregnated. The point at which it shall be considered a disease requiring medical treatment, is uncertain. Where it is not very excessive, I should rather advise patience and the forbearance of the use of remedies. When it is fairly entitled to be considered a disease, the following considerations are to be had in view in its treatment.

A good deal has been said in reference to the character of the discharge; and the question has been, "was it an excessive discharge of the menses, or a mere discharge of blood?" This question is not always easily answered; but it is not very important, for the remedies applicable to the one case, and the other, are very much the same. In almost every instance the disorder will make its attack at the regular period of menstruation, and the continuance of the flow will be longer, than the period which would be proper, to the individual. The quantity discharged in a given time, is sometimes so great, as to produce the most alarming symptoms. As the disease progresses, the term during which the flow continues is lengthened, so that in bad cases, there, sometimes, is scarcely any interval between the cessation of one course, and the beginning of another; but in all cases, about the time at which the menses should flow, the discharge will be very much increased, and if

there is any danger from the mere excess of the discharge, it will then be manifest.

#### REMEDIES.

The remedies which are proper to suppress the discharge, are to be first considered, and the most important of these is absolute rest in a horizontal position. The instant it is decided that it is an attack of serious disease, the person affected should retire and remain in bed. Should the discharge continue unabated for an hour or two, cold applications should be made in the form of wet towels, laid across the lower part of the abdomen, and near the organs of generation. If the pulse is high, and the face flushed, blood should be drawn from the arm. If the flushing still continues, and this is no uncommon case, a dose of tartar emetic may be given. After this, if there continues any necessity for it, antimonial mixture may be given in broken doses, so as to keep up a degree of nausea which may be conveniently borne. Few cases resist these means more than a day or two; but there are instances in which the hemorrhage is of the most obstinate and dangerous kind. In such instances, a physician should be called, and a tampon introduced, so as to resist the discharge of blood in every possible way. After the discharge has continued a day or two, and the time arrived at which in a healthy state it would have come to a termination, it may be proper, in case of necessity, to exhibit astringents internally. The acetate of lead, may be given, in doses of three or four grains, once in eight hours. Laudanum may be added, if there is much pain, or if the debility which has been brought on is in any degree alarming. The ergot of rye has been administered with some success, in these cases. Ten grains of this article in powder may be given in syrup, two or three times a day. By these remedies, used with judgment and perseverance, almost every case of menorrhagia will be brought to a close in a few days; but the disease may be expected to return at the next period of regular menstruation.

In the interval of the discharge, the treatment of these cases is a matter of more uncertainty. A prudent use of tonic medicines and other restorative means, is so reasonable, that we almost involuntarily have recourse to them; but the patient will often be found too feverish and excitable to bear the use of such remedies. Very commonly the pulse is full, and the least stimulant will produce an excitement, with giddiness, and some degree of fever, which will forbid the exhibition of such a remedy.

It will then be proper to commence with tonics of the mildest stimulating influence. The vegetable bitters deserve the first place in this respect, and, although there may be a thousand plants which yield the bitter principle, and are tonics in their effects, I think there is but little gained in substituting any thing for the gentian, which I have so often mentioned as the very best of this class. The extract of gentian made into pills with ginger, or powdered cinnamon, may be given in these cases. Three or four of these pills, of the common size, may be given in the course of the day; at the same time, a diet reasonably generous, and exercise in the open air, will be beneficial; but the exercise is not to be pressed beyond the perfect ability of the patient to sustain it. Where the case does not appear to bear the stimulating treatment well, and the patient is affected with more or less fever, throbbing pulse, white tongue, headache, giddiness, and symptoms of that description, the use of the hip bath is entitled to high commendation. This bath is taken by sitting in water in a shallow tub, in a convenient position; every one must contrive this for herself; but it should be practised for an hour at a time, and repeated according to circumstances. In these cases it has the best effect in lessening the irritation, nervous excitement, and inflammatory symptoms we have mentioned. Where these inflammatory symptoms can be reduced to a point which admits of the use of stronger and more reliable tonics, composed of preparations of iron, they should be used in a decided way. They should be commenced with, as soon after the flow of the menses has stopped, as possible, and used for one or two weeks, and then discontinued till after the next period. Ten grains of carbonate of iron, given in syrup three times a day, is perhaps the best preparation of this remedy. The same quantity made up into pills with a portion of white ginger, or powdered cinnamon, may be taken at the same time. Other preparations of iron may be substituted; but I do not know any particular reason for preferring one of them over another.

---

## PREGNANCY AND ITS DISEASES.

Doctor Rush insisted on it, that pregnancy was but a nine month's disease. Other authors have not agreed to consider it in this light; but all agree that it is productive of many inconveniences, ills, and disorders. The symptoms which pre-



sent themselves in the course of gestation are striking. We may mention nausea, vomiting, pyalism, dyspepsia, anorexia, constipation, colic, diarrhœa, dysentery, tenesmus, hemorrhoids, œdema, and varicose veins. To this list may be added, affections of the mind, which vary in different cases. It will not be expected that each of these inconveniences will be entitled to more than a passing notice. The nausea and vomiting which are usually the first signs of impregnation, commonly disappear after the third month is completed. They are, however, exceedingly disagreeable, and sometimes continue with great obstinacy almost during the whole course of pregnancy. These symptoms are frequently attended with anorexia, or a loathing of some articles of food, which are for a time, held in the greatest aversion. This loathing of food is a peculiar symptom, and sometimes seems of itself to aggravate the vomiting and sickness at the stomach. It seems to exist in many instances, when the presence of food in the stomach is every way desirable. Very often, an effort made to take food, in spite of a loathing appetite is found to be extremely beneficial—the taking of a small portion of food removing the nausea and loathing at the same time. It is not often that remedies appear to affect a great deal in removing nausea. Emetics have been recommended; if they are taken, they ought to be of the mildest kind. Twenty grains of ipecac for instance, in a table spoonful of water. Seidlitz powders taken in an effervescing state, have, in some instances, seemed to afford relief; but the conclusion of the third month of pregnancy, commonly brings a relief that no remedy can equal. The constipation of the bowels, and colic, very often seem to go together. They are by no means unfrequently present, and the fits of colic that sometimes occur, are seldom violent or dangerous. Constipation is to be hindered or removed by every means in our power. If a lower diet does not accomplish this, medicines should be used from time to time. Calcinèd magnesia, with or without rhubarb, is perhaps the best article, which can be suggested for the relief of this state of the bowels. If it proves offensive to the taste, there is no objection to the occasional use of a Seidlitz powder, or any other equally mild cathartic medicine. The heating and drastic cathartics which form the basis of almost every cathartic pill in use, are particularly improper for pregnant women; causing as they do, a great deal of heat in the lower bowels, tending to produce several inconveniences to which these persons are particularly subject. The piles or hemorrhoidal affections,

which occur to pregnant women, are to be regarded as a temporary disease ; for they generally disappear soon after the birth of the child. The œdematous or dropsical swellings of the legs, and the varicose veins, which are frequently found to be very troublesome, are to be viewed in the same light. They are temporary affections, and will disappear in due time. In some cases, however, these swellings of the veins and limbs become an inconvenience so serious, that medicines for the removal of the water thus collected, become absolutely necessary. A brisk cathartic is, many times, a proper remedy in these cases. Cream of tartar and jalap, given in broken doses, so that its action may be restricted to proper bounds, is, perhaps the best. If the pulse is high, bloodletting is a remedy of more value for these particular symptoms, than any other. The acidity of the stomach, which is, with many, a constant inconvenience during the whole period of pregnancy, may be removed by the use of absorbent medicines, such as prepared chalk, carbonate of magnesia, and others. The carbonate of soda and of potash, are remedies for this affection, and may be used from time to time. An itching and burning pain about the organs of generation, is a common symptom. For this, a solution of a drachm of sugar of lead and an equal quantity of white vitriol may be made in a quart of water, and the parts bathed with it, two or three times a day. The food which should be taken by persons in this state, is a matter of due consideration. It ought to be light and easy of digestion ; but, in many instances, I might say in most instances, the appetite of persons in this situation is untractable. They have their preferences, and it is not easy, for them to take articles for which they have not a particular relish ; nor has it been found as unsafe as might have been expected to gratify them, more or less, in the bent of their inclinations in this respect. Still it is very important, that they should be kept within limits suited to the strength and digestive power of the stomach. Many, I have no doubt, destroy themselves by persisting in the use of improper food in too great quantity. It may not be amiss to add, that if persons during pregnancy, are attacked with any disease, an intermittent or remittent fever, a pleurisy, or any other general disorder, they should use the remedies which are proper for these diseases, with not much regard for the fact, that they are in a state of pregnancy. In fact, as a general rule, it becomes important to use remedies still more ac-

tive and decided, than would be proper to the same person under other circumstances.

I have thus in a single paragraph mentioned the most important disorders of pregnancy, and their remedies. It is too brief to be satisfactory, but I have not room to enlarge on the subject. I will close by remarking, that many females who have reached an advanced age, find the burthen of pregnancy almost too much to be borne. Such persons should make no violent resistance to their disorders. They require rest, patience, and time. If their digestive power is bad, they should conform to its weakness, by a rigid forbearance. If supper or breakfast disagrees with them, they must forbear the indulgence of eating, till they have found by experience, what they can safely take. If rich food proves oppressive, try the poorest, even vegetables or ripe fruit of any kind.

---

### CHILD-BED FEVER.

This disease is a violent fever, brought on by inflammation of the womb, and its appendages. It is, in many instances, exceedingly dangerous, producing death in a few days. No disease to which the lying-in woman is subject is so much dreaded as this. It has, in many instances, appeared to be epidemic, attacking, about the same time, many women who happened to be in this condition. In lying-in hospitals, it has sometimes appeared with a violence scarcely equalled elsewhere. The importance of the subject has caused a corresponding degree of attention to be given to its study, and investigation. Many post mortem examinations have been made of those who have perished by it; and it has been found that almost every one of the abdominal viscera, were more or less affected. The womb and its appendages, as well as its veins, have many times presented the evidences of the highest degree of inflammation, and sometimes suppuration and gangrene.

The attack of this disease is first noticed by the appearance of a chill, which is soon followed by violent pain and fever. The pain is sometimes seated in the region of the womb, but more frequently, as far as I have observed, in one side of the lower part of the abdomen, near the groin. Very soon violent pain and great tenderness spread to all parts of the abdomen. Commonly, a sudden swelling or enlargement takes place, and

violent pain is produced by pressure on any part of the abdomen. The pulse becomes exceedingly rapid, and after a few hours is sometimes very much reduced in its force. The patient, in the mean time, is entirely prostrated, and scarcely able to move in her bed. The expression of countenance is exceedingly dejected, and full of distress. Her breathing, in the mean time, becomes oppressed, and delirium is a frequent symptom. If these symptoms go on without any means being used to arrest them, a fatal termination is very much to be apprehended in four or five days. It is not every case, however, that runs on with this rapidity, or commences with this degree of violence. I have seen many instances, in which a fever, with pain in the regions I have described, and all the symptoms I have mentioned, was present, and still the case was not a very formidable disease. I have seen such cases get well under the most feeble and inefficient treatment. But this disease is always entitled to be considered a very serious affliction, and no time should be lost in administering the proper remedies.

#### TREATMENT.

The great prostration and rapid pulse which attend these cases, were, for a length of time, considered by physicians, as evidence of a disease of the highest typhoid grade. Such patients were therefore treated with the strongest stimulant and tonic medicines which could be procured. About the time I commenced the practice of medicine, great confidence was reposed in the use of spirits of turpentine in large doses. I soon had an opportunity of seeing their effects, and sad was the result. It was not long, however, before a better view of this disease was taken, and remedies of an opposite character were brought into use. The first of these remedies is blood-letting, which, from the inflammatory character of the disease, is plainly indicated. The only difficulty in coming to the conclusion of this absolute necessity, is the weakness and rapidity of the pulse. Blood, however, should be drawn freely on the first day, if possible. So high is the confidence now reposed in this remedy, that almost all others are entirely thrown aside. Physicians think it only necessary to bleed, and if the patient is not relieved, to bleed again. In my own practice, I am not so thorough a bleeder. If I am called in due time, which is far from being always the case, I bleed with sufficient freedom; but a single bleeding is commonly all that I find necessary. I do not rely on this remedy to the exclusion



of others ; I may say, that I do not rely on it as a principal remedy. The remedy in which I have most confidence, is calomel and gambouge. Take of calomel, thirty grains, gambouge in powder, eight grains—to be mixed together, and made into eight pills. Of these pills, give two every two hours until an active cathartic effect is brought on. As soon as this remedy operates as a cathartic, the patient will feel the great relief which has been afforded, and probably the symptoms from that moment give way. I am not sure, that I have met the disease in the formidable type in which others have seen it, but I am perfectly sure, that the remedies I offer, are almost absolutely certain to afford entire relief when administered in time. I seldom resort to the lancet, but rely on the powerful cathartic I have mentioned. If after the operation of this remedy, the patient is still in pain, give a dose of laudanum, or of morphine. Offer nothing more during that day. She will probably obtain perfect ease and rest for many hours. Should the pain return the next day, or at any succeeding time, repeat the dose exactly in the same way ; and this forms the whole treatment of so formidable a disease, and I venture to say, nothing the physician will have it in his power to do in his profession, will yield him more satisfactory results. But in many cases, these remedies will be either delayed, or used inefficiently, or perhaps the case may prove more untractable than I have supposed. The fever may continue and the inflammation of the parts be kept up. These require a continuance of the depleting remedies so often recommended for the relief of inflammation. I should, for instance, prescribe antimonial mixtures to be given once in three or four hours, but not in doses to operate too much. Other mild and cooling remedies may be used according to the symptoms of the case. Where the tumefaction of the abdomen is great, warm fomentations may be used. This would appear, in some degree inconsistent with other remedies which have been recommended. I have tried cooling applications in these cases, and unless I have been deceived, they have been productive of an increase of pain. Warm applications, on the contrary, have always appeared to afford relief. If the distension of the abdomen is considerable after the cathartic has operated freely, have a large warm poultice enclosed in a bag, and kept warm on the abdomen. These remedies may be used as the strength of the patient and the violence of the disease seem to demand, till there seems to be no farther use for them.

## MILK LEG.

This disease is said to consist in an inflammation of the veins of the womb, extending from that organ to the veins of the leg. It produces a painful swelling very much like that produced in dropsy, the leg and thigh having a shining appearance, and in the parts which are not too tender to admit of being pressed, leaving for a time the marks of the fingers as if the impression had been made on dough. The attack of this disease is commonly with more or less chill, followed by a low degree of fever—lameness and pain in the limb. Professor Meigs has stated that the pain and soreness are almost always felt first in the calf of the leg. I had thought this pain related more to the veins which pass on the inside of the knee down the leg. This affection of the leg, enables us, from the first, to distinguish this disease from puerperal fever. It is a great relief to the mind to discover, that it is in fact a case of milk leg; for this is comparatively a disease of little danger. It is sometimes, however, equally painful, and often a great deal more obstinate and lasting. I have known it to be fatal in only a single instance. The injury done to the veins of the limb, is seldom entirely recovered from: the persons who have once had it, have always some degree of tenderness and lameness along the course of the leg, which has been affected. In a few cases, both legs are equally affected at the same time. The situation of the sufferer is one of entire helplessness: she is unable even to turn in her bed.

## TREATMENT.

Bleeding and the application of warm poultices form about the whole of the treatment recommended for this affection. In the commencement of the disease, where it is in any degree violent, the drawing of blood may be necessary. I have seldom met with cases, in which I thought it necessary to resort to this remedy; but I think it unsafe to forbear the use of cathartic remedies. It is true they are inconvenient in consequence of the helplessness of the patient; but they should by no means be neglected. A full dose of calomel should be administered, followed if necessary by a Seidlitz powder, or a small portion of castor oil. At the same time warm poultices should be applied along the course of the limb, and across the abdomen, for the pain will be often found to extend into the lower part of the abdomen, near the hips. Several poultices should be made and put into bags for this purpose; and they

should be applied as hot as the patient can endure them ; and it will be soon found that she will demand them of as much heat as the nurse will willingly handle them herself. If the pain is very great, a dose of morphine or laudanum, may be given as soon as the cathartic has operated. Although this disease is an inflammation tending to suppuration, there can be no doubt of the great superiority of the hot applications in the treatment of it ; and it is to the application of heat principally that the patient is to look for relief from the most agonizing pain. In addition to this her position should be perfectly horizontal, and as easy as it can be made. It should be so arranged that the limb can be more or less bent, and the patient should be allowed to choose her own position. When the disease subsides, and the tenderness of the limb admits of the application of a bandage, a roller of five or six yards in length, should be applied from the toes, running up with uniform, but moderate pressure over the leg and thigh. This bandage is an important item in the treatment of this disease. It should be carefully attended to, and not allowed to produce pain, and yet so used as to afford some support to the weak vessels of the limb. Recoveries under its use are a great deal more perfect, than those which are allowed to take place without it. It should be carefully applied once a day at first, and afterwards not so often. The application should not be discontinued when the patient is able to rise from her bed. She should be taught to have it applied by the assistance of a nurse, and not abandon it as long as she finds it useful. In some instances the pain of this disease comes on in paroxysms and is so severe as to be intolerable. In such cases a dose of laudanum twice a day and hot applications diligently made have answered all my expectations. I have never seen suppuration result from this treatment.

---

### MILIARIA—SUDAMINA.

This slight affection would not call for any notice, were it not that it sometimes produces a degree of fear and uneasiness, far beyond its importance. Perspiration seems to be one of nature's means of throwing off the superabundance of fluid from the child-bed woman. This perspiration is sometimes in excess, and becomes, of itself, a cause of great exhaustion. After it has continued for a number of days, and without any other cause that we are apprised of, the patient will be affected with

a certain degree of itching on the skin. On examination it will be found covered with minute blisters, which are compared to the seeds of the millet, and have thus given name to the disorder. These vesicles are colorless, and the skin, if not minutely examined, would not appear to be in the least changed. The slightest pressure, or scratching of the part, will cause them to burst, and the matter which they contain, which, I have no doubt, is mere perspirable matter, flows off. Thus far the disease appears to be perfectly trivial, and is, in many instances, not regarded by the patient. But in some instances a degree of excitement now takes place, and a light inflammation spreads over the skin producing redness. The skin itself appears to be thickened, and the patient feels that she is feverish and diseased. Now these disorders do not call for any additional medical treatment beyond that which would be proper if they had no existence. A blue pill followed by a Seidlitz powder, frictions on the skin, and dry clothing frequently renewed, form all the remedies which I think it necessary to suggest on this occasion. The only thing, which I consider of much importance in the matter, is that the mother should be informed, that these are symptoms of no particular danger.

---

## FLOODING.

Under this title I propose to treat hemorrhage from the womb, under a particular state of circumstances. Every woman is apprised of the great danger which attends flooding. When it occurs immediately before or after delivery, they are apprised that life is at stake; and that there is but little time to look for remedies, or send for physicians. A knowledge of the most proper measures to be taken at such a moment, is therefore very important. The measures which might be taken by a skilful surgeon, in cases of great extremity, can hardly be recommended in a work like this. I shall mention only the measures that are practicable and useful in common hands.

If the discharge of blood precedes the delivery, it is obvious that every means to forward the delivery should be used. In many instances, a dangerous flooding is suppressed by the effect of a single powerful pain, which brings down the child to a lower position, where from its pressure on the blood vessels concerned, the hemorrhage is instantly arrested. If the labor has been long protracted, and hemorrhage comes on, no time should be lost in administering ergot. Ten grains may be giv-



en every fifteen minutes till three or four doses are given. Severe labor pains may be expected to arise from the use of this article, and the hemorrhage will either be arrested, or the labor brought to a termination in a short time. There are other instances in which the hemorrhage comes on after the delivery. In these cases, perhaps, in half an hour after the child is delivered, the mother will be seen to faint; and, on examination, it will be found, that there is a rapid and incessant flow of blood. From forty to sixty drops of laudanum should be instantly administered, and five grains of sugar of lead as soon thereafter as possible. Frictions over the abdomen, with the hands of assistants, should be at the same time applied, and the hand of the midwife introduced, if necessary, into the womb, to stimulate it into more powerful contractions; for these contractions when brought about, suppress the hemorrhage in nature's own successful way. In addition to this, cold applications may be used, taking care that they are not continued when the patient is so weak and exhausted, that the mere application of cold might be fatal. Stillness and a horizontal position should be observed strictly in these cases. Great pains should, at the same time, be taken to sustain the spirits of the patient; for, from some unexplained law of nature, the influence of fear, however excited, tends to promote a violent action in the vessels of the womb. In some instances the womb seems to fail in contracting to smaller dimensions, on the delivery of the child. Indeed this, in a greater or less degree, is the cause of hemorrhage of this description. Considerable assistance may be given to the feeble powers of nature by pressure on the part, either by the use of bandages, or by the hands of a friend. In many instances the walls of the abdomen are so thin, and lax at this time, that they are easily taken up by the hands; and the womb, when it fails to contract, is taken up at the same time. A strong pressure between the hands of an individual kept up for only a few minutes, has in many instances, I have no doubt, arrested, what would otherwise have produced a fatal hemorrhage. A thing so important and so easily accomplished ought to be known at the bed side of every individual in this situation.

---

### GIVING SUCK—LACTATION.

One of the most interesting laws of nature, is that which imposes on the mother the necessity of yielding food to the

child. This function, when it is perfect, should yield the child the principal food that it is to use for the first year of its existence. In a healthy female, the quantity is commonly in due proportion to the wants of the child. Sometimes, however, it is too abundant; and in other instances, too small in quantity. When it is too abundant, it is only necessary to allow the child to draw from first one breast and then the other, the quantity it requires, and if possible to avoid drawing from the breast any thing more. This may be somewhat painful, for the breast will be constantly distended; but the effect of it will soon be seen to produce a less abundant secretion of milk, and to reduce the quantity sufficiently. Should pain, and symptoms of inflammation attend this attempt, it will be necessary to procure the aid of another to draw, from time to time, a portion of the milk, still remembering never to draw the breasts entirely empty, for emptying the breast is the best means of promoting the secretion of more. In the instances in which the secretion is too small in quantity, it may be increased by the reverse of the above rule. Let the breasts be drawn as frequently as possible; and when drawn, let all that can be taken from them, be abstracted. This will promote the secretion in a wonderful degree, and in many instances, where it is done with assiduity, supply to the child food in abundance. Where this proves insufficient, warm applications in the form of poultices around the breast, have been used with benefit. A generous food of fluid aliment will also promote the same end.

---

## DISEASES OF THE BREAST.

### INFLAMED NIPPLE.

This is a very common disorder in mothers with their first children. In early marriages, the nipple is frequently very imperfectly developed at the birth of the child. Very great straining therefore of the skin is produced by the attempt of the infant to suck, which soon produces a very great degree of tenderness and pain at the time. Very commonly this pain extends up into the breast, alarms the mother, and she is told that the sucking must be repeated as often as possible, for fear the breast may inflame and suppurate. This is bad policy. A nipple inflamed, is to be treated as any other inflammation. The drawing of the milk from the breast is a matter of absolute

necessity ; but it should not be performed too often—once in six hours is often enough. As soon as the drawing of the milk by the infant is effected, the nipple may be wet in alum water, and then allowed to dry ; and it should be kept as dry as possible. By this means, the skin is hardened against the next time it is to be drawn ; and, in many instances, all ill effects hindered. But we are not always so fortunate as to see this disorder arrested at such a crisis. Cracks form, which grow deeper and deeper ; and, many a time, are attended with a loss of the nipple itself. These cracks are scarcely the object of different treatment. When they become deep, sometimes it may be well to touch them with a lunar caustic ; but, in general, the treatment recommended above, of washing them in alum water, or a decoction of red oak bark, or any astringent in common use, answers every purpose.

#### INFLAMMATION OF THE BREAST.

The milk vessels which should form a system of tubes, discharging without interruption at the nipple, are frequently hindered in the performance of this function ; and this very often gives rise to inflammation of the breast, and suppuration. When this inflammation first occurs, it is commonly obviously connected with one particular part of the breast, in which a tumor or knot, as it is commonly called, is first felt. This tumor is manifestly a mere collection of milk ; and sometimes when, with a little care, the inflammation is not aggravated, and the milk has accumulated as much as the dimension of the vessels will admit of, it suddenly bursts forth and spins out until it is thoroughly discharged, and a threatened disease is disposed of in a moment. Every effort should be made to bring about this desirable result. The child should from time to time be applied to the breast, and allowed to draw it ; and when a flow of the milk is not thus procured, cooling applications should be made. The mother should, in the meantime remain as still as possible ; and, after due time, the attempt should be repeated. But in spite of all the prudence and management that can be used, these cases sometimes go on to the production of matter. This is a painful result ; but I know of no better way in such cases, than to allow the matter to be fully formed, and to open and discharge it with a lancet, taking care that the cut shall be in the direction from the nipple to the mother's body, so that the milk vessels which are not yet divided may be preserved. These suppurations are sometimes

superficial ; and when the matter is discharged, the cure is perfect, leaving the breast to yield milk as well as before. But there are many instances, in which an incurable disorder of the breast, is brought about ; and our only resource is to cause the milk of the organ to be dried up. It is an easy matter to dry up one of the breasts, and still to retain the other in a situation to yield milk. To do this, it is only necessary to cease to abstract the milk which is formed in it. As soon as it becomes painful, draw from it a small portion, taking care never to draw it empty, and to protract the times of drawing, and to lessen the quantity drawn until it becomes no longer necessary to draw from it any at all. It is wholly unnecessary to apply washes, poultices, blisters, plasters, or any thing of the kind. They are useless.

It should not be forgotten, that the breast in the state to form milk, is enlarged, and the vessels much strained when it is full. The weight of the organ is a serious inconvenience ; and often, from movements by no means violent, becomes a cause of bruises and ruptured vessels. Great care should therefore be taken to support the breast by well adjusted clothing, which should operate as a support. This is the more necessary, when the female goes abroad, either to ride or to walk. The inflammations which follow such excursions, are charged to catching cold ; but they are almost always chargeable to the weight of an unsupported breast.

---

## VENEREAL DISEASE.

It is not without some hesitation, that I have consented to treat of this loathsome disease ; but the reasons requiring it, are so strong, that I have thought it necessary to give way to them. This disorder, or rather these disorders, for there are two varieties, were not known to the ancients. It is about three hundred years, since it was first described as a contagious disorder. Its spread in the South of Europe, was rapid and alarming. During more than half a century, no remedy was discovered for it. The mortality which was attributed to it, compares with the worst plagues that ever visited the world. I have seen the deaths which it caused in fifty years, estimated at fifty millions of people. It prevailed principally in the South of Europe, at that time the most civilized portion of the world, and such was the alarm inspired by it, that great



fears were entertained of an entire destruction of the human race. Medicine has accomplished no other triumph equal to the arrest of this formidable disease. It is no longer a scourge to those who by a purity of life, are entitled to an exemption from its effects ; and under the worst circumstances, it excites but little fear, and is commonly brought to a speedy and successful termination. It still exists, however, in sufficient frequency to be a just cause of alarm to those who might wish to practice illicit indulgence.

ON THE CONTAGION OF VENEREAL DISEASES.

Since the days of the celebrated John Hunter, it has been a dispute whether there were, in fact, two venereal diseases, or but one. That able writer performed many experiments to decide this point, and came to the conclusion, that all the diseases now known under this title, are varieties of one infection. The varieties, however, differ so widely, that without intending to become a partisan on either side of the question, I shall treat them separately, and give to each its appropriate description and remedies. They are, however, both contagious, and the manner of their propagation by the intercourse of the sexes, is the same, each producing in the first instance a local disorder, which may finally spread to distant organs. It was formerly believed that the infection was so strong, that it was dangerous to come into the presence of one having this disease. It became therefore, a custom for one who was unfortunately so affected, to mention his condition, and to submit to a voluntary banishment from society, which doomed him in many instances, to a miserable death like a wild beast in the woods. Holy abbots, who were thought to have been infected by their visits to the sick, we are told, were seen to take leave of their congregations under these appalling circumstances. The manners of that age, required reform ; and I will not withhold the opinion, that the fear of this disease has been one of the powerful restraints which has curbed the licentiousness of nations. The propagation of this disease is a mere inoculation. The infectious matter being laid on or applied to a moist or mucous membrane, produces there its peculiar inflammation. Inserted with a lancet into the skin, in the manner of inoculation for small pox, the disease is also propagated under certain circumstances to which I have not time to advert. The most common mode of its propagation, is by the intercourse of the sexes ; but there are not wanting

cases of its spread by the mere act of kissing, or any mode of applying the infectious matter to the moist surface either of the eye, the nostril, the mouth, or the anus, or neighboring organs. It is important that individuals affected with this disease, should know the laws of its propagation, and thus be enabled to avoid communicating it. The infection in the two varieties of the disease, requires a separate consideration. The most infectious of the two, is the common gonorrhœa or clap. It is met with, in nineteen out of twenty cases of venereal diseases. It is propagated almost exclusively by the intercourse of the sexes. When the disease first makes its appearance, it is most infectious ; after it has continued a great length of time, it ceases to be infectious, without so great a change in the appearance of the discharge as might seem to account for it. No rule that I know of can be given for the absolute decision of the question, whether the disorder is in an infectious state or not. It seldom continues so, as much as twelve months, however ill or inefficient the treatment may have been. I should say that if it had continued during a shorter time, with obvious proofs of its presence, all the while, there would be danger of its propagation. There is some consolation, however, in knowing, that although, in some cases, this species of infection continues in a mild form for a great length of time, it is at length, free from infection. The syphilis or pox, is infectious only during the existence of the ulcer, or vesicle, in which it makes its first appearance. This ulcer is, in many instances, so trivial as to excite not attention. It is then in its most infectious state. It seldom gets well of itself, but is easily destroyed, and heals up, after which, the individual on whom it has been, is incapable of propagating it to others. He is far, however, from being relieved of the disease ; not only is he thoroughly affected by it, but it may take months and even years to rid him of it ; still during the whole of this time, however loathsome the symptoms which may appear, they are incapable of being propagated either by contact or otherwise. One exception, however, in reverence to high authority, I am bound to mention ; it is said, that persons thus affected, although they can not by any means propagate it to others, leave it as an inheritance to their offspring, in whom it may appear soon after birth, or at any time in a long life thereafter. I confess that I am not a full believer in this doctrine. It is a subject of deep interest, and has been investigated with much labor and research. The disorder most resembling the secondary, or as these cases are termed, tertiary symptoms of

syphilis, is scrofula ; and persons affected with this disease, are many times, thought to labor under syphilis. Now from my own observation, I am obliged to believe, that in general, the disease which has in these cases been termed syphilis, is an original attack of scrofula. The last publication which I have seen on this subject, is by Ricord, who in a Parisian hospital, had every means of information. He is a believer in the transmission of venereal infection ; but says, that it never appears without complication with some other disorder ; that the venereal disease alone never appears as a transmitted disease from parent to offspring. Now, this is so near a giving up of the whole question, that it seems to me there is little left to dispute on. Living as I do, in a country in which scrofula is comparatively a rare disorder, I have had very few reasons to believe, that I have seen a transmitted syphilis, and my mind is strongly inclined to the belief, that there has been an error on this subject, which it is important to correct.

---

### SYPHILIS OR POX.

This disease is almost always produced by impure coition. It makes its appearance within from eight days to six weeks of the time at which it was contracted. Its first symptom is a chancre or small and commonly insignificant vesicle on the organs of generation, sometimes in the tender skin, near the mucous surface where there is a perpetual state of moisture, but in many instances at some distance from these parts. At first it is a mere watery blister not larger than the head of a pin. In a day some degree of inflammation at its base will be found, and an increase of size will be constantly perceived. In a few days it will present a whitish appearance, with perhaps the skin broken or rubbed off, and the whole base will have a hardened or thickened appearance. The matter which flows from it will be very small in quantity and perfectly transparent. So small, indeed, is the discharge, that the disease has obtained the common name of dry pox. In this state the disease gradually advances till the chancre is healed by proper applications. In other instances the ulcer produced by this disease is widely different. It assumes a ragged, spongy appearance, becomes deep and wider at the bottom than at the top, destroying the parts affected with great rapidity, and many times producing fearful mutilations. There are still other cases in which the

symptoms are more formidable, producing mortification and sloughing to the entire destruction of the organs affected. These symptoms constitute what has been termed the first stage of syphilis. The second stage makes its appearance in the form of bubo, which is an inflammation of the glands of the groin, sometimes occurring on one, and at other times on both sides. The progress of this inflammation is slow. The glands affected are sometimes superficial, and at other times deeper seated; for there are many lymphatic glands in this particular region. The pain which attends it, is less than the amount of swelling and the appearance of inflammation, would seem to indicate; still it goes on, if not arrested by remedies, to a full suppuration, when the skin bursts, disclosing a foul and untractable ulcer. The ulcers thus produced give way only under a proper constitutional treatment for the disease. The matter which flows from them is said to be, in some cases, infectious, and in others not. The third stage of the disease has the great characteristic of being totally free from infection. Many ulcers arise in it, producing the discharge of matter which would lead to its propagation in various ways; but it is a question well decided that this matter is not infectious. The symptoms of this stage of the disease are called secondary. They affect almost all parts of the body, the skin, the throat, the bones, and the cartilages, but, so far as I know, the more vital parts of the body, the brain, the lungs, and the intestines are free from its attacks. Commonly these symptoms do not appear in less than six weeks from the commencement of the disease. They are many times much later in making their appearance, and what length of time we shall say is the period at which the individual, who has been thus affected, may feel himself entirely free from the danger of these secondary symptoms, has not been yet decided. Commonly this stage of the disease appears with ulcers in the throat. On opening the mouth and pressing down the tongue, there will be seen in the back of the throat, an ulceration deep and ragged, as if a portion of flesh had been dug out with a small chisel. These ulcers are so insensible, that the person affected by them is not commonly apprised of their existence until they have acquired a considerable size. The next symptom which has been observed is an eruption on the skin. This may appear on any part of the body and result in ulceration, producing scabs with a peculiar copper color seen in no other disease. Another symptom very common at the same time, is a diseased state of the bones. The hardest plate of bone in the body seems to be



most liable to this affection. The shin bone I have seen more frequently affected than any other. The bones of the head are also subject to these attacks, and I have seen instances in which, a caries of these has resulted in a loss of a large portion of the skull, exposing the brain almost naked to view. Great pain attends this stage of the disease. This pain very much resembles rheumatism. It is much worse at night, and productive of more distress than any other symptom of the disease. These are the leading features of pox, from the beginning to the end; if not arrested by proper remedies they go on almost invariably to the destruction of the patient.

#### REMEDIES FOR POX.

The first object to be had in view is the healing of the chancre, or original ulcer. This chancre will sometimes be found to have healed of itself. In several instances I have met the disease in a state of bubo, the individual declaring that he had never had any thing like a chancre. If the chancre exists, however, it is the first object of treatment, and the remedy is an application of lunar caustic. This should be made very effectually. The caustic should be moistened and rubbed on the whole of the part affected for about a minute. The operation will be somewhat painful, and if a considerable inflammation follows it, a soft poultice of corn mush or light bread, boiled in water or milk, should be applied. If the inflammation is considerable great care should be taken that the individual is absolutely at rest. In addition to this if there appears any danger from the inflammation, an active cathartic should be taken. Where the ulcer puts on a different appearance from that which we have described as a common chancre, there is much more difficulty in the treatment. Even here I am decidedly in favor of the absolute destruction of the sore by lunar caustic, but the inflammation which sometimes follows this is very severe, and may endanger the mortification of some portion of the surrounding substance. These cases ought always to be placed in the hands of an experienced surgeon. They are decidedly dangerous. After the cauterization of these ulcers, they are to be treated with the mildest applications. Lint should be applied to them, and over this, a covering of fine rag kept constantly moist with water. If the case is not alarming, and this treatment is found inconvenient, a plaster of simple ointment may be substituted. If the symptoms are free from dangerous inflammation, no time should be lost in commencing the

internal use of mercury. If any inflammation which threatens gangrene is present, this is first to be subdued or very much lessened ; but this also will in the end require the same use of mercurial remedies. In combination with mercury it is, however, advantageous to use opium, not only on account of its allaying pain and irritation, but because it hinders the action of mercurial remedies on the bowels, by which means they are often thrown off and prove ineffectual. I have also used pills composed of calomel and opium. Take of calomel twenty grains, opium five grains : mix and make into sixteen pills. Of these pills two a day may be taken, and if they do not produce symptoms of salivation, they are to be continued till the whole are taken. It is desirable that a low degree of salivation should take place. Writers assure us that the cases in which no salivation occurs, get well as readily as those in which it does ; but I never was able to satisfy myself that a proper degree of mercurial action had taken place without some degree of salivation being present. Still I have found cases in which I was wholly unable to excite the slightest appearance of salivation, and yet these cases have recovered under the use of mercury as readily as others. More frequently, however, when the sensible effects of the remedy are not seen, we are apt to be disappointed in our expectation : the cure is either greatly postponed or not effected at all. These remedies, mercury and opium, are the sole reliance in the treatment of the constitutional symptoms of syphilis. Books have been written to decry mercury, and to declare that there was no necessity for its use ; but I believe experience has at last settled the question permanently. No prudent physician dares to withhold this remedy from his patient. It is unnecessary to add a great deal in reference to the treatment of cases which become protracted, and produce the several symptoms which have been referred to above. Mercury and opium are the only remedies which remove the disease. The opium should be used from time to time according to the necessities of the case. It should be used to allay pain, to arrest disorders of the bowels, or to remove the irritable state of the nervous system, which so commonly occurs in protracted cases ; but the use of mercury should not be too long protracted at one time. A slight salivation being brought on, should be kept up for five or six weeks, when the remedy should be laid aside. It should be suspended for a time, although the symptoms of the disease may not seem to be benefited ; for it seems that where the system has been mercurialized for a great length of time, the remedy is no longer efficient

for the removal of the disease. It should be laid aside for a time when it may be again resumed with every prospect of as much benefit as in the first instance. There may not be wanting cases which will prove untractable under these remedies. There are many other nostrums which have been advised in such cases ; I have but little faith in any of them. When the patient is much reduced by prostrating courses of mercury or any thing else, a generous diet and other restorative means should be allowed him. He may also take such tonic medicines, as experience has proved to be qualified to restore the strength. He may visit watering places, especially where there are warm springs, with great advantage, and if he has rheumatic pains he will be much benefitted by the common remedies for rheumatic disease ; but if these pains arise from syphilis, he will not be permanently relieved of them until he returns again to these mercurial remedies. I will not enter into the dispute over the many ills which are charged to the use of mercury : I have neither room nor inclination for it. I have no hesitation in regard to the advice I have given. I face in it all the responsibility which may attach to me in the premises.

It may be wrong to say nothing of other preparations of mercury in the treatment of syphilis. In combination with iodine, it is thought to be more efficient than when used alone. The hydriodate of potash is a chemical compound of these remedies which is now much used. I have no doubt of the great value of this preparation. It may be given in doses of from two to five grains twice a day. The corrosive sublimate is another preparation of great value, especially when the disease attacks the skin with a general eruption. It may be given in doses of from a quarter to half a grain, two or three times a day. All these remedies may be used alternately, as they shall be found most beneficial in these tedious cases.

#### GONORRHOEA OR CLAP.

This affection is contracted in the same manner we have described for pox. It usually makes its appearance in from four to eight days after it is contracted. . There are instances of its appearing, however, in a single day, and others in which it has appeared after three weeks. This disease consists in an inflammation of the urethra in men, and of various parts of the mucous surfaces of females. It makes its appearance by some excitement and itching of the parts, followed by an inclination to discharge urine frequently, and after a day the discharge of

mucous matter which is of a greenish yellow color. The inflammation will by this time have become considerable. The parts will have acquired some redness, and a degree of tenderness. Without much variation, these symptoms continue, the inflammation in men not extending more than an inch from the opening of the urethra. After a considerable length of time, however, it will be found to have progressed along the urethra, and to produce particular excitement very near the bladder. In females the whole vagina is frequently affected. This disorder is much more formidable in men than in women.

---

### GONORRHŒA IN MEN.

We have seen that this disease produces in both sexes, an inflammation of some portion of the organs of generation. As the disorder progresses, the symptoms it produces differ so widely in the different sexes, that it becomes necessary to treat of them separately. In men the inflammation frequently continues for many weeks or months, without progressing along the urethra more than an inch. From this point it appears to move on at once, and to establish itself in the urethra near the neck of the bladder. The symptoms which follow, are much more formidable. The bladder itself is frequently involved, and the prostate gland and the parts near it, are frequently also involved. The symptoms become much more alarming. Frequently a very large discharge of puriform matter takes place, with all the symptoms of a much more extended and violent disorder. In other cases the disease seems to be transferred to the testicle, and suddenly a pain and swelling will attack one of these organs. The discharge from the urethra will suddenly disappear, and the swelling of the testicle progress with great rapidity and pain. In a day or two this organ is enlarged to three or four times its natural size. The pain is in proportion to the rapidity of the swelling, and is sometimes excruciating. In other instances, the inflammation seems to be transferred to the glands of the groins, producing buboes, very much resembling those which are produced by syphilis. This is however a rare occurrence, and such buboes have never within my observation suppurated. After these symptoms have continued for some months, the disease sometimes appears to assume a constitutional form. The health of the patient is destroyed, and I think I have witnessed an in-



stance in which death occurred from a protracted venereal inflammation of the prostrate gland and of the bladder.

#### TREATMENT OF GONORRHŒA IN MEN.

For the disease in its first stage we have two remedies, which are so far superior to others, as to be solely entitled to notice here. These remedies are balsam copaiva, and cubcbs. We are charged by some not to use these articles when there is present an active state of inflammation, but to precede them by the use of active cathartics, bloodletting, leeching, cold applications, and other antiphlogistic remedies. Others advise us to use the balsam copaiva without delay, whatever degree of inflammation and fever may attend the case. This is my own practice, and I will remark, that I have never met with a degree of fever and inflammation in this disease to cause me to hesitate for a single moment. So long as the disease is confined to the urethra, whether it be near its external orifice, or near the bladder, I have no hesitation in the remedy I shall use. The patient should take a tea spoonful of balsam copaiva twice or three times a day. This is a measure of about a drachm and a half at a dose, and very small in proportion to what some have recommended, but much larger than what others of equal authority would tolerate. The relief which this remedy will afford, will be perceived almost immediately, perhaps in a few hours. A pretty copious secretion from the kidneys, will take place, and a flow of limpid urine follow it. In some cases it operates on the bowels as a cathartic, and in a great many instances, becomes exceedingly loathsome to the patient. Many contrivances have been made to remove these inconveniences. Capsules containing the copaiva, are in daily use. The objection to them is, that it takes a great many of them to contain the requisite quantity. After all the methods which I have seen advised for the administration of this remedy, I know of no better, than to pour it on a little clear water in a wine glass, and turn it up to the mouth and swallow it. But the mode of taking the article, is a matter of little consequence—the quantity which should be taken is the main thing. This quantity is to be regulated more by the power of the patient to endure it, than anything else. It may be carried up to an ounce a day, and when the stomach will bear it, and it produces no great effect as a cathartic, the relief obtained by it, will be in proportion to the quantity used. This remedy is to be continued till the discharge disappears, and for ma-

ny days afterwards. The great difficulty is, that after the disease has disappeared, and the patient considers himself well, it will frequently return again. In these cases, we know of no better remedy, than to return to the use of the balsam.

The next remedy in point of value, is cubebs, and its effects are so similar, that in many instances, the patient will be scarcely able to tell which of the articles he had taken, from the effect produced. The advantages of this article, are, that it is less loathsome, and does not disagree with the bowels, and produce pain as the balsam does. It may be given in powder, in doses of thirty grains from three to six times a day. It is often given at the same time with the balsam, by lessening the dose of that article, and giving a portion of cubebs. This course I have known to succeed when no other article alone seemed to answer. In some instances where the secretion of urine is small, it is advantageous to unite with the balsam an equal quantity of spirits of nitre, and where there is a good deal of internal pain, a portion of laudanum so graduated as to yield to the patient from forty to sixty drops in twenty-four hours, may be beneficially added. All these remedies, although they exert a very great control over gonorrhœa, are sometimes used for a very great length of time without effecting a cure. The average of time which it will require to effect a cure, will be about three weeks. One half of the cases probably require twice that length of time, and not a few will baffle us longer still. When the disease has left the urethra and attacked neighboring organs, we can no longer rely on the cubebs, and balsam for relief. These remedies seem to effect no good, where the disease is a swelled testicle, or inflammation of the glands of the groin. These affections are to be treated as a mere inflammation. The fever which attends them, is many times very considerable, and the remedies to be used are such, as are suited to the same degree of inflammatory disease. In these instances, an emetic of antimonial mixture should be given. It should be given to act promptly and effectually. Where the disease is a swelled testicle, warm fomentations to the part, should be used; and here let me remark, that although there is great heat in this organ, there is no tendency to suppuration, and although from the pulse, cold applications would seem to be best, they are uniformly hurtful, and produce an aggravation of the disease, while warm applications afford the greatest relief from pain, and benefit to the patient. These remedies, when judiciously applied, will be found sufficient for the removal of these symptoms of gonorrhœa; but when the pros-

trate gland is affected, the case is much more serious, for this organ when affected with inflammation from any cause, seems less capable of recovery, than almost any other. It is in cases like these, that we are recommended to use the internal and alterative remedies, which are used in syphilis. Mercury in broken doses, or iodide of potassium used in the same way. I know nothing better to offer in the treatment of these cases; but I feel bound to state, that their effects have proved very unsatisfactory in my hands. In addition to all these remedies, when the disorder is protracted, and the discharge becomes thin and almost colorless, or rather whitish than yellow, injections have been recommended. They should be astringent in their qualities. The most common is composed of sugar of lead and white vitriol; ten grains of each dissolved in half a pint of water, and suffered to stand till perfectly transparent, when it is to be poured off, and used as an injection. This is one of the many astringent injections which have been proposed for the cure of gonorrhœa. A decoction of oak bark, brought to a deep straw color, is a good remedy of this class. Where there is much scalding or pain at the discharge of urine, laudanum, about twenty drops to the ounce, may be added to any astringent injection which may be used.

There has lately been introduced an injection of extraordinary power, and of which I can say but little from my own observation. This is a solution of lunar caustic, in rain or river water, in which about twenty grains to the ounce is to be dissolved. This powerful remedy may be safely used, and if it is tried, let it be used once a day for two or three days. It should be thrown up from a syringe, with rather a large orifice in its point, and pains should be taken to hinder the escape of the fluid for a few seconds. This remedy is said to put a sudden stop to the disease, if used on its first appearance. Like all other stimulating injections, it exposes the patient to the danger of a swelled testicle, if used when the disease is in a state of too much excitement. Its use should not be attempted without the advice of a physician.

Gonorrhœa sometimes excites an inflammation over the penis, where the skin folds over and preserves a degree of moisture. It is sometimes severe in this situation, producing tenderness and redness, with a watery discharge from under the fold of the skin; but not the least inflammation or discharge from the urethra which is the common seat of gonorrhœa. We shall in vain enquire why it is, that the disease, in these cases, abandons its usual ground, and takes up another. But we are

consoled in the knowledge, that our remedy is at hand, and sure to afford relief. For these cases, take thirty grains of sugar of lead, and four grains of corrosive sublimate, and dissolve them in eight ounces of water. Bathe the part with this twice a day. If the part is so swollen as to hinder the application, a syringe may be introduced under the skin, and the fluid thrown in with some force. Care should be taken not to introduce the syringe into the urethra. By the use of this remedy the disease, in this form, will be speedily arrested, and no other remedy will be required. I have used it for thirty years, and never had a case of this affection to fail to give way to it, in six or eight days.

---

### GONORRHOEA IN WOMEN.

This disease is, in women, a comparatively mild affection. The organs it may reach are the urethra, and the vagina, with all the moist mucous surface about the external orifices. The disease more readily attacks the urethra which, in women, is a short canal, yielding but little surface, and proportionably a small discharge of matter. It is on this account, that while, in females, the disease is confined to the urethra, and in its most infectious state, it is unnoticed by them, and propagated without consciousness. When the inflammation has extended to the surrounding parts, it becomes obvious, frequently producing considerable external swelling, and tenderness. When the vagina in its whole course becomes affected, the discharge is greater, and the disease is hardly distinguishable from an aggravated case of whites. It is no uncommon case for both these disorders to be present at the same time.

The remedies for gonorrhoea in women vary according to its symptoms. When the urethra is principally affected, and some pain and burning attend the discharge of urine, balsam copaiva is the great remedy. A tea spoonful of this may be taken in water, two or three times a day. If it operates as a cathartic, give ten or fifteen drops of laudanum in each dose. If the balsam can not be borne by the stomach, or proves inefficient, try cubebs. Take fifteen grains, in powder, four times a day. If fever and inflammation attend the disease, mild cathartics become necessary, and may be used at discretion. Calcined magnesia and rhubarb are the best of these. Where the inflammation affects the parts which are external or nearly



so, warm poultices should be applied, and the patient should remain as quiet as possible.

Injections are more useful in the treatment of gonorrhœa in women than in men. It is true they cannot reach the urinary passage, and when the disease is confined to that, they are of little use. But when the discharge becomes considerable, it may be taken for granted that the disorder has invaded the vagina. Strong astringent injections are then to be used. Many have been proposed, but I will mention only a few of them. Take sugar of lead and white vitriol, of each thirty grains—dissolve in half a pint of water, and shake it when it is to be used. The next I will mention is a solution of alum, a drachm to the pint of water. A strong decoction of red oak bark may be substituted. These injections may be thrown up with a female syringe, not introduced too far into the vagina. A little perseverance with these remedies, and prudence on the part of the patient, will commonly arrest a gonorrhœa, in women, in a short time. Where the case is complicated with whites, that disease is commonly made the more obstinate.

---

## SCALDS AND BURNS.

Scalds and burns are of such frequent occurrence, that they need no description. Every one is apprised of their painful nature and difficulty of cure. Their treatment should correspond with the injury ; which differs in degree from the excitement of a low degree of redness in the skin, to its absolute destruction. It is on this account, that it is proper to divide the subject, and to treat of scalds as a distinct subject from burns.

Scalds are produced by the application of hot water, or other equally hot fluid to the surface of the body. If the application is continued but for a moment, the burn thus inflicted, will be so slight, as barely to blister the skin. Where the skin has not been torn, such burns are readily healed ; but where, from suddenly tearing off the clothing, or other similar cause, large pieces of skin are torn off, very troublesome ulcers sometimes follow. The treatment of burns of this description is very simple. As soon as possible after the accident, cloths wet with cold water, should be spread on the part ; and this application frequently renewed, should be continued until the whole of the blistering which is likely to occur from the burn, has taken place. The blisters should be carefully preserved from being

broken. The healing of these blisters is the only remaining part of the treatment. Where the blister is large, it becomes indispensable to discharge a portion or all of the water it contains. This should be done by puncturing it with a very fine needle, and allowing the water gradually to escape. For a long time such burns were treated with the application of bats of carded cotton, bound to them in a way to remain perfectly unmoved, and this is in most instances, a very good remedy. Such a burn, thus bound up with a considerable thickness of cotton, will frequently be found at the end of four days entirely healed. Of late, this remedy is beginning to be superseded by a continuance of the application of cold water; and where the skin is torn, I have no doubt this is the better application of the two. It is very troublesome, however, for it ought by no means to be allowed to grow dry on the surface, because in this state, the cloth adheres so firmly to the burnt surface, as to produce great irritation, and often to convert into an untractable ulcer, that which should have been disposed of as a mere blister. The oldest remedy of all is perhaps the most manageable, in most cases. This is an application of simple ointment, spread on a fine rag. This ointment should be made sufficiently hard to remain in the form of a plaster on the rag, and by no means to allow the rag to adhere to the surface of the scald. If the burn is extensive, this application of plasters should be made with small slips, and put on neatly, the edges running over one another as the shingles of a house, so that no part may at any time become naked. Under a neat dressing of this kind, a burn that is no worse than that we are describing, will usually heal in one week.

Severer burns are inflicted by the burning of clothes on the body, and the accidental contact with fire or other hot bodies. Such burns are not very easily judged of, on first being seen. Commonly the skin will be found to have been torn off, and the flesh will look as white, in many instances, as the breast of a chicken. Such flesh, or skin is commonly entirely destroyed. It will have to come away by a slow process of sloughing, which will render the cure tedious. Many are the nostrums which have been published for the treatment of burns of this description; and when such nostrums happen to be applied to burns which have inflicted less injury, they will pass for having accomplished a great deal. None of them are entitled to any particular respect. A burn of this description is a bad injury, and in proportion to its extent, dangerous. Even a slight burn when extended over a great part of the body, is

said to be dangerous ; although I have never witnessed a case of fatal injury from such a burn. But when a great portion of the skin is utterly destroyed and lifeless, the patient may well be said to be in imminent danger. He will commonly be found trembling and complaining of cold, denying the usual pain of heat and smarting which follows a burn. The symptoms of cold and shivering, with pale face and faintness, are dangerous in proportion to their intenseness. Burns of this description are to be treated with stimulating applications. Equal quantities of lime water and sweet-oil shaken together, have been applied, time out of mind. This application is a very good one. Bats of carded cotton should be laid on the part, and the sweet-oil and lime water patiently applied with a feather, till these bats are found to be fully wet with it. The bats may sometimes be more conveniently dipped into this fluid, and then applied ; but they should be made sufficiently thick on the part, to render it certain, that the bandages which are to go around them, will never come in contact with the flesh. This remedy may not always be at hand. As a substitute, melt hog's lard, and add to a pint of it, about two table spoonsful of spirits of turpentine. Stir this till it begins to grow cool, and acquires about the thickness of cream : apply this in the same way I have recommended for the sweet-oil and lime water. In the event that neither of these remedies can be procured, the burn should by no means remain without dressing. Lard alone, applied by means of bats of cotton, may be used in the same way. The burn thus dressed, should remain undisturbed for at least three days. Pains should be taken, that the bandages are put on snugly, so that they will not move ; and where this is difficult, from the irregularity of the parts, the bats of cotton should be proportionably thickened, so as to render it as nearly as possible certain, that the surface shall not be exposed.

At the second dressing, when the bandages are removed, it may be found that there are parts on which the cotton adheres with great tenacity. No force should be used in removing these. Take off all that can be conveniently removed ; and such as adheres clip with a pair of scissors. The injury is now ready for a second dressing. The parts which still retain the white appearance, should be dressed again in the same manner. There will often be found around the edges, and sometimes over a very great proportion of the injury, parts which are less injured. Plasters of simple ointment should be applied over these, and this should be the the first part of the dressing. Af-

ter this the bats of cotton should be applied to the parts, which have lost the skin, and look dead, as I have described before. After this, the dressings may be daily repeated. They should be continued with a gradual abatement of the use of lime water in the liniment, until the dead skin has separated. This will expose an ulcer of some depth, and require for the separation a considerable length of time, sometimes three weeks. The putrid smell which will be a great annoyance, until the dead flesh is separated, will now disappear, leaving the ulcer to be treated according to its extent and character. Such ulcers have a great disposition to throw out exuberant granulations, proud flesh as it is termed. When this flesh rises above the ordinary level of the skin, no healing over it will take place, and an ulcer of slow termination will be the consequence. To hinder this, a powder of lapis calaminaris should be thickly spread on the surface at every dressing, from the time the dead matter or slough has been thrown off. This is most conveniently accomplished by putting the powder into a piece of gauze or muslin, and sprinkling it in that way. The whole surface should be entirely covered at every dressing. Other and similar applications may be used; prepared chalk, or even starch, may be used in case of necessity. If in spite of this, the granulations grow too high, they are to be kept down by the occasional use of burnt alum. The same end may be accomplished by washing the part with a decoction of red-oak bark. In some instances these granulations spring up with a vigor and power of growth truly astonishing. On the skin of colored people, they are a great deal more exuberant. I have seen them nearly an inch in length, and apparently composed of thousands of independent living fibres. On attempting to remove a mass of this kind of matter with a knife, I have in one instance found a hemorrhage so great as to be truly alarming. This case was at last controlled by applications of extract of oak bark, made by boiling a quantity of strong decoction down to the consistence of syrup. Cloths dipped in this and laid on the part, proved sufficient for the removal of these granulations. Under any treatment, these cases will be tedious. The remedies which have been mentioned, may be varied and substituted by others of similar character.

When burns are extensive, they will make a powerful impression on the constitution in the first instance. And very great prostration is the consequence of an excessive burn. I have no hesitation in administering to such patients laudanum in large doses, and following it up with brandy, till a high de-



gree of fever comes on. When this fever supervenes, it is to be treated according to its character. Mild cathartics are commonly all the remedies I have found it necessary to use. Where the injury has been very great, and the patient continues in a prostrate condition resembling typhus fever, the stimulating plan of treatment should be persevered in to the end. In these painful cases, great relief may be, from time to time, obtained by the use of laudanum or opium in some form. I am not conscious that it hinders the cure, and great is the comfort which is, many times, derived from it. It may be used according to the symptoms of the case.

---

## SURGERY.

It will be expected that certain cases of surgery will be treated of in this work, and I should satisfy this expectation with more pleasure, if I could select the subjects of my remarks amongst those of less importance and of easy comprehension. But accidents give rise to many of the most difficult and important cases of surgery; and they happen without giving warning of their approach, or allowing much time for the obtainment of surgical aid. I shall confine myself to such as are most frequently met with, leaving others to those who write treatises particularly devoted to this part of science.

## FRACTURES.

A bone broken by any kind of violence, constitutes a fracture. These accidents are liable to occur in any of the bones of the body; but they are much the most frequent in the arms, or the legs. They are all to be treated with the means best calculated to bring them into the exact position in which they grew, and retain them there. If this can be accomplished, the bone unites in a reasonable time; and its strength is not in the least impaired. When the soft parts are at the same time penetrated, so as to make an opening from the surface to the broken ends of the bone, it is a compound fracture; and experience has shewn, that the inflammation and suppuration which follow, are serious and alarming. When the bone is broken into many small pieces, and an external opening from the surface also made, the case is often so serious, as to call for the amputation of the limb. Where cases of this kind take

place, no time should be lost in procuring the best advice ; but if fractures are unattended with these injuries, there is less danger in them. Great injury is often suffered by allowing bones to unite in unnatural positions, producing permanent deformity of the limbs. It is therefore always prudent, to procure the aid of a skilful surgeon, in the treatment of fractures.

#### FRACTURE OF THE SKULL.

The large size of the human brain, and the exposed situation of the head, render the fracture of the skull, by no means a rare occurrence. When the skull is merely cracked, although the skin may be torn off, leaving the bone exposed, it is only necessary to treat the wound of the scalp, and to close it over the skull in the best way, to cause its speedy union. But where the bone is depressed, and placed in a situation to produce permanent pressure on the brain, the accident is more serious. Able surgeons teach us, to let such depressions remain, unless they produce symptoms of dangerous pressure on the brain. These symptoms are a total destruction of mental power, with spasms, stertorous breathing, &c. These symptoms call for the elevation of the depressed bone, which is only to be attempted by an experienced surgeon. Of the necessity of this operation, it is not always easy to determine. Where there is manifest and considerable depression, I should sooner hazard the operation than to let the depression remain. The consequences of its remaining, may prove serious, at a remote period.

#### FRACTURE OF THE ARM.

The arm may be fractured above or below the elbow. Above it, the fracture itself is more obscure, but the treatment much more safe and easy. By taking hold of the arm at the elbow, and raising it even with the body, if it is fractured, it will bend, producing great pain. By taking hold of the part affected, and moving the limb at the elbow, the ends of the bone will be distinctly felt to move on one another, with roughness or crepitation. When this accident does not happen too near the shoulder or the elbow, the treatment is very simple. A roller, or narrow bandage, is to be passed around the arm, so as to reach from the elbow to the shoulder. Care should be taken, that this bandage is not too tight, and the hand and forearm should be frequently noticed, to see that the circulation in them is not obstructed. Over the roller a thick

piece of paste board, surrounding the arm, is to be applied. The lid of an old book, made soft in water, will answer the purpose very well. This should be bound around with another roller, so as to fit the arm easily. A thin layer of cotton may be used to make the application more easy. Care should be taken to keep the part still, until the paste board becomes dry. It will then be hard enough to remain straight; and by keeping the arm in a sling, and bent across the body, the cure will progress favorably. Many things might answer as well as this paste board; but, in my hands, it has always answered very well. At the end of four or five days, the arm should be stripped, and the dressings put on anew, after which, they should remain till the bone is united.

Fractures of the forearm are much more liable to produce deformity, than those of which I have been treating. This deformity commonly grows out of the shortness of the splints, which leave the hand unconfined, and allow it to roll in a different direction from that taken by the bones of the arm. This is remedied by extending the splint from the elbow to the palm of the hand, so that the fingers can bend over the end of it. This splint may be of a piece of wood, made sufficiently thin, and two other pieces to be confined on the sides of the arm. But when it can be obtained, a piece of paste board, long enough and sufficiently strong, may be used with more convenience and advantage. This should be made thoroughly wet, and applied with cotton interposed about the wrist, so as to make it fit with perfect ease, but still support the hand and hinder its turning. Great care should be taken, that this paste board is allowed to get thoroughly dry without being bent; for it is on this we are to rely, for the preservation of the straightness of the arm. The application of bandages or rollers, is the same here as in the treatment above described of fractures of the arm above the elbow. The arm should be flexed or bent across the body, and supported in a sling around the neck. Perfect cures of this fracture, are often hindered by the rolling motion of the two bones of the forearm. It is difficult to keep them still, and exactly in place.

#### FRACTURE OF THE THIGH.

This is the largest of the hollow bones, and is frequently fractured. Surrounded as it is by very thick flesh, the examination of its injuries are difficult. When the fracture is near the middle of the bone, its existence is obvious; when the

limb is lifted or turned, the crepitation or rubbing of the ends of the bone, is easily felt. If the patient lies on his back, the foot will fall down on its side, the toe point out to one side when it should be forward. The limb is commonly shortened an inch or two, which may be seen by placing the two knees together, while the patient lies on his back. Some skill is necessary to manage this test, for the hips are not always kept even at the time. This shortening of the limb, attends also a luxation of the hip; and care should be taken to feel or hear the rubbing of the ends of the broken bone. Where the fracture is near the head of the bone, the nature of the injury is sometimes very difficult to detect.

A fractured thigh bone will almost always be shortened, and if it gets well, remain so, unless it is hindered by skill in the application of dressing and splints. Many are the plans which have been proposed, but my faith is strong in that proposed by Desault, some seventy years ago. This plan proposes the permanent extension of the limb by means of a splint extending from the arm-pit down the leg, and five or six inches below the bottom of the foot. Through this splint, holes are to be made above the hip, and at the lower end below the foot. A bandage is now to be passed between the thighs, and around the broken limb to the holes in the splint above the hip. A large silk handkerchief answers this purpose, or a piece of cotton cloth not too coarse, may be used in its place. The corners of the handkerchief being carried through the holes, are to be firmly tied. A similar bandage is now to be placed on the foot, passing it so around the ankle, as not to draw tight around it, by being pulled. Pass this bandage through the holes at the end of the splint, draw it pretty firmly and then tie it. The broken bone will now be seen to be between these two bandages, operating in different directions, and producing extension. Great care is to be taken that the foot is kept in its natural position. If the toe is allowed to turn too far out, or too far in, and thus remain till the bones unite, the deformity will be palpable, and a great and permanent injury be done to the patient. The extension of the limb to its natural length is not to be attempted at this time; but the bandages are to be lightened from day to day, till it is accomplished. This should be done with great care; and no force should be applied, which cannot be conveniently borne. When too much force is used, the skin gives way on the foot or below the groin, and it becomes indispensable to lessen it. In other cases, the pain becomes intolerable, and I have seen violent convulsions



the consequence. The cure in these cases, is seldom as perfect as if attempted by gentle means. A moderate extension, if it is not allowed to relax, will seldom fail to bring the limb to its proper length, and of itself effect the setting of the bone. The patient is to be placed on a mattress, with an even surface, and there remain on his back, till the cure is effected. This may require six weeks, and more in old persons. It looks like a dreadful penance to be placed in this situation for so great a length of time. But the patient is to be told, that after the first week, his sufferings will be more tolerable; and that he is to bear them to the end, or rise with a permanent deformity of the limb.

#### FRACTURE OF THE LEG.

There are two bones in the leg, and when one is fractured, and the other not, there is little difficulty in making the adjustment of the broken bone. The part is so thinly covered with flesh, that the nature of the injury is easily discovered. When one of the bones is unbroken, it secures the straightness and length of the limb. Still the patient should remain in a fixed position; or if he moves, do it with crutches, so as not to bear any weight on the limb. A wide and strong piece of paste board, bound well around the leg, and allowed to dry in that situation, is the best splint.

When both bones are broken, there is great danger of deformity of the limb, from the toe being allowed to turn too much out or in. A wooden box with three sides, is thought the best security against this. The patient is to be placed on his back, and the box should be near enough to the size of the limb, to prevent its bending. The interstices which will be left, may be filled with cotton carefully stowed in, so as to give equal pressure to every part. Bran thrown in and made to pass down around the limb, is said to answer this purpose still better.

Where fractures are attended with great injury of the flesh, and the bone is broken into many pieces, dressings are obliged to conform to these circumstances. More or less deformity will occur, where extensive suppuration and the loss of bone take place. The preservation of life and limb is here the great consideration.

#### LUXATIONS.

A bone which is thrown out of its socket, is said to be luxated. This accident is of frequent occurrence, and requires but

the replacement of the bone, and its retention in its place to effect a cure. They are not all replaced with equal ease, and some of them are necessarily attended with so much injury to the joint, that when they are replaced, the cure is yet far from being accomplished. When they are complicated with broken bones, and wounds of the surrounding parts, they are sometimes wholly unmanageable.

#### LUXATION OF THE SHOULDER.

This is the most frequent of all luxations. The head of the arm bone leaves its socket, and is sometimes thrown down into the arm-pit, and sometimes backwards or in front of that position.

The replacement of the shoulder, when it is luxated, is sometimes easy, and at others, very difficult. When the head of the bone is in the arm-pit, it is easily discovered by feeling; and at the same time the collar bone and part of the shoulder blade, will project and show the cavity which was previously occupied by the head of the arm bone. This is always a symptom of this luxation.

So many easy methods of reducing this luxation, have been published, that I have some difficulty in choosing amongst them. The last is the easiest, and deserves a trial. Take a strong chair, and place on the back of it a cushion, about equal to the arm in size. Set the patient in this chair, and let his arm hang over the back of it, resting the arm-pit on the cushion. Bind a bandage around the limb, above the elbow, and tie the two ends together like a stirrup. The surgeon is to place his foot in this stirrup and rise, as if to mount a horse. His weight thrown on the arm reduces the luxation. I have long used a different method. Place the patient on a stool, near a tree or post. Pass a wide bandage around his body, and around the post, so that he cannot be drawn from it. A surcingle answers this purpose very well. Pass a handkerchief under this bandage and over the shoulder, so that it cannot slip down the body. Take a long towel, or two yards of common homespun, and bind the middle of it to the arm above the elbow, with many turns of a bandage. The two ends may be taken for the application of force to reduce the luxation. The surgeon is then to take hold of the arm, and two assistants pull the arm, allowing the patient to lean, so that it may be drawn as if it were elevated considerably higher than the shoulder. The surgeon will move the hand, so as to give to the

bone a rolling motion during the pulling, and if he is watchful, he will feel the bone when it enters the socket. The pulling is instantly to be suspended. The luxation downwards has never failed in my hands to be instantly replaced by this method. Lately, I had a case in which the head of the bone was thrown forwards. This case resisted my old plan, and after hard pulling by my assistants, and great suffering by the patient, he was arranged for a downward pull, thus the luxation reduced. I have no doubt that the plan I have described of pulling the arm over the back of a chair, would have relieved him promptly. When the shoulder is restored to its place, the arm should be carried in a sling, and the elbow kept near the side, till the soreness and inflammation are removed. This in some instances, requires considerable time.

#### LUXATION OF THE ELBOW.

This is a rare occurrence, but very difficult to remedy. The luxation can happen only backwards, which leaves the elbow incapable of being bent, and the arm shortened considerably. The extension and replacement of the bone are very difficult. They are to be attempted by pulling at the hand, and straining the elbow with some force, as if to force the hand backwards. The process of the bone which hinders the reduction, may in this way pass over the head of the arm bone into its place. This operation will hardly succeed in common hands, if it does in any other.

#### LUXATION OF THE HIP.

Great force is required to replace the head of the thigh bone, when it is thrown out of place at the hip. It is not often accomplished, but the failures are commonly the effect of making the attempt with too feeble a force. Three men with all their force, will hardly pull the limb of one of strength equal to themselves, with more force than it requires.

The luxation of the hip is known to have taken place, by the great pain, shortened limb, toe turned inward, and thigh firm and resisting. In some rare instances, the limb is lengthened, and the toe turned outwards. In both cases, the state of the thigh is about the same.

The reduction of this luxation is to be attempted by placing the patient on a table, with a strong bandage passing between his thighs and along his body, to be attached to some immovable thing beyond his head. Another bandage is to be attached

firmlly to the thigh above the knee. By this a force sufficient to extend the limb is to be made. The surgeon is to take hold of the leg at the foot and at the knee, giving it a rotatory motion at the time the extension is made. There is more force than skill required in this operation. When the young surgeon has used all the force he dares to put on his extending bandages, and is about to say stop to his assistants, he will probably hear and feel a sudden snap at the joint, and the bone will be replaced. This has been my experience.

#### LUXATION OF THE ANKLE.

This is in some persons a small joint to sustain the weight of the whole body. It is frequently injured, and sometimes thrown out of place. The accident is easily judged of, because of the thin covering of flesh over the bones of the foot and ankle. Commonly there is no difficulty in replacing the bones; but the ligaments of the joint are much torn, and time and rest will be requisite to restore the soundness of the joint. Some of these accidents carry with the leg bones, one of the bones of the foot, producing great difficulty in the reduction of the luxation.

The violence which attends luxations is often very great, and the wounds which at the same time take place, are a subject of treatment for themselves. All these things call for a sound discretion on the part of the practitioner, and are to be provided for according to circumstances.

---

#### ULCERS.

Any part of the body which has its continuity broken, by the effect of disease, is said to be ulcerated. An ulcer differs from a wound, inasmuch as the broken substance which owes its existence to a wound may be healthy, and have a strong tendency to heal, while an ulcer has arisen from causes which must be removed before healing can take place.

The most common cause of ulcers, is scrofula, but syphilis, cancer, varicose veins, and many other diseases produce ulcers, some of which are incurable. In other instances, ulcers appear to depend on the disease of the part they occupy, without affecting the general health.

When ulcers depend on a vitiated health, or the presence of



any known disease ; that disease is to be removed before we can expect the permanent cure of such ulcers. But there are many cases in which the remote cause of ulcers is very obscure ; and we are compelled to treat them on principles which, in some degree, apply to all. I shall therefore devote some attention to the general rules of treating ulcers, as local disorders, leaving their remote causes to be treated of elsewhere.

Some ulcers, like many diseases, have of themselves, a tendency to heal, after having produced certain effects—a boil or abscess may be of this description. Others, from the absorption of the solid parts, expose the nerves of sensation, become irritable, and spread without any tendency to heal. Others, after having acquired some size, begin to fill up with granulations, but stop without healing, and become indolent, as it is termed. Others depend on a peculiar disease, and are thus kept up for an indefinite time.

#### TREATMENT.

Ulcers are to be treated according to their particular character. If they are healthy, they require only protection from injury, with stillness and time. If they have much raw surface, and are of some depth, cover them with fine lint, and over this spread a plaster of simple ointment. It should be neatly applied, and secured in its place by a bandage sufficiently tight. If the discharge is so considerable as to run through the dressings in twenty-four hours, they should be renewed daily—if the discharge is less, their renewal should be postponed to the second or third day.

Ulcers which are irritable, and tender to the touch, especially when they are deep and ragged, yielding a thin and watery discharge, require a great deal more skill in their treatment. The object is to cause them to form healthy granulations, or flesh, from the bottom. This is to be promoted by applying stimulants daily ; such as lint dipped in spirit, or equal parts of honey and brandy, or tincture of myrrh. Over lint lightly laid on, and wet with either of these articles, a plaster of simple ointment should be laid. If the case is bad, the patient should be kept still ; if the ulcer is on the leg, he should be confined to his bed. If it can be borne, a tolerably tight bandage should be applied ; and if any one of these remedies fail to improve the appearance of the ulcer in a few days, try another. If the case does not improve, try escharotics. First

try lunar caustic, applied fully and freely to the whole ulcerated surface. If this fails, try red precipitate in powder. Let this in a dry state be equally sprinkled over the whole surface of the sore. In all these resources, our reliance is sometimes misplaced, and the ulcer will grow worse. Try next the application of dry lint, without any plaster over it. Scrape the lint extremely fine, and put it into water; take out a small portion of it at a time, but cover all the ulcer thickly and equally with it. Let it remain exposed to the air till it dries, and keep the patient as still as possible, avoiding exposure to cold. And now if I am asked, if I have any system of treating these ulcers, I answer that my profession supplies me with no better than I have given. In all cases, avoid dressings too frequently repeated, and do not continue a remedy too long, if it produces no amendment in the case.

Indolent ulcers are found most frequently on the legs. They are often caused by a state of general ill health, and may continue for many years. It is thought to be not safe in every case to heal such ulcers; but I have not found the danger very great. These ulcers are to be treated as the effect of debility, never forgetting the remedies suited to the general health of the patient. To the ulcer, apply lunar caustic, or red precipitate in powder. Then lay over it a dressing of lint, and over this strips of adhesive plaster, firmly drawn on. A roller four yards long is then to be well applied from the toes to the knee. This dressing should be applied once in two days. The caustic, or precipitate will hardly require more than a second or third application. The foul, dark appearance of the ulcer, will change to a more healthy color, and lint dipped in tincture of myrrh or spirit of any kind, will be sufficiently stimulating. By degrees, all these stimulants may be laid aside; but the adhesive strips and bandage are to be continued to the end. This is Baynton's method of treating indolent ulcers; and it is, in my opinion, one of the great improvements of modern science. I remember when it was a common thing to amputate sore legs. And I well remember the fame of a man who cured such ulcers, by tying his patient down on a ladder, and surrounding the sore with a rim of clay, into which he poured hot tallow, assuring his patient after his agony was over, that, "any one could cure a burn."

The ulcers which arise from particular diseases, such as scrofula, may put on some of the appearances above described. They are to be treated according to their symptoms, always

recollecting to continue the remedies for the remote cause, whatever it may be.

When ulcers take on a healthy action, the granulations of new flesh sometimes shoot up too high, and the process of healing is suspended. Astringents are the remedies to reduce these granulations. Oak galls, or powdered alum, judiciously applied, answer every purpose. In treating of burns, I had occasion to mention the means of hindering and of removing these granulations. I need not repeat them.

I ought not to close this essay, without mentioning the use which is now made of cold water, in the treatment of ulcers. It is applied, I apprehend, without much regard to the particular character of the ulcer. Fine cloths dipped in cold water, are spread on the sores, and renewed often enough to hinder them from becoming dry, by day or night. This practice is more suited to hospitals than to private families, and after all, I doubt its benefits to many ulcers. I do not recommend it to those whose knowledge of medicine is limited.

---

## WARTS AND CORNS.

Warts are small tumors on the skin, which produce neither pain nor inconvenience, and after a considerable time disappear of themselves. When from their number or appearance it is desired to have them removed, it is easily done with any keen instrument. By raising them a little with a pair of forceps or fine thread passed through them, they can be cut off with a pair of scissors, without causing much pain. Lunar caustic should be applied to the wound. Where the pain of this operation is objected to, strong astringent applications are to be made to the warts, and repeated daily for a considerable time. A solution of sulphate of copper, may be tried. A plaster of extract of oak bark, will, I have no doubt, remove them speedily; or caustic potash will destroy them at a single application. But I have not tried these last remedies.

Corns are of two kinds, the hard and the soft. They both arise from pressure on any particular spot, of the skin, and are met with on the feet or toes. They consist of the external layer of the skin thickened and indurated. Between the toes of some persons, there is moisture enough to keep these excrescences soft, but they are none the less painful on that account. The soft corn should be removed, by taking hold of it with a

pair of forceps, drawing it out a little, and cutting it off with a pair of scissors. It will heal readily, and not return again. Hard corns are taken out with a knife, removed by applying caustic potash, or hindered by wearing soft shoes. But I prefer removing them by softening them with a poultice, repeated so as to keep it all the time moist, for a day or more. The corn will be made soft; it should then be removed, and not allowed to get dry, which would make it harder than ever. The skin will be left tender and thin, and the corn return after a time from the same cause. These directions apply to the worst cases of corns; but in most instances, by placing the foot for half an hour in very warm soap suds, the corn will be so softened that it may be removed with the finger nails, or scraped off with a case knife.

#### TOE NAILS GROWING INTO THE FLESH.

The frequent paring of the toe nails and rounding off the corners, is the sole cause of this troublesome affection. By this operation, which is commonly made the more pernicious by taking out the hard skin, with which nature supports the corner of the nail, the flesh rises up, and is soon so situated as to be pricked at every step. A flow of matter now takes place, which so softens the nail as to allow it to bend, almost always from a bad to a worse direction.

Surgeons cut through the nail near its centre, and tear out one half of it with a pair of forceps to remove this malady. The remedy is worse than the disease, and is unnecessary. Place a little lint before the toe nail. Remove it and insert a new piece every day if there is a flow of matter from the part; if it is dry, let it stay for three or four days. By degrees, you will acquire skill, and learn to insert the lint before and under the corner of the nail, which will relieve the pricking pain felt at every step. When the nail is by this means conducted forward past the flesh, the cure is accomplished. The patient should do it for himself. In an old case where the flesh has mounted high over the corner of the nail, it may require considerable time to effect a cure; for the patient will shorten the nail to rid himself of pain. Still he should continue the lint, and let the nail grow still longer from time to time, and the cure will be accomplished in the end. After the cure is effected, the patient is scrupulously to deny himself the pleasure of rounding off the corners of his great toe nails, and tearing out the hard skin which nature has so wisely put in its place.



## TOOTH ACHE.

Few persons live to middle age without experiencing more or less tooth ache. The pain is sometimes intense, but in its best form sufficiently annoying. I offer a few words of advice to sufferers. Where the tooth is tender and so decayed as to admit of putting any thing into it; take a piece of oak gall, trim it with a knife small enough to go very loosely into the tooth. It will soon become soft, and fill the cavity perfectly without pain. After a day or two, it may be removed and another inserted; in a few days the sensibility of the nerve of the tooth will be destroyed, and its bad smell removed. The same remedy may be applied in the form of tincture of galls, into which a small piece of cotton may be dipped and put into the tooth with a pin. This, repeated daily, will in a short time, destroy the nerve of the tooth, and the pain will cease. Other and more caustic articles may be used, but I prefer the simple astringent I have mentioned. When an acute inflammation attacks the substance surrounding the root of the tooth, it should be extracted immediately; but if this is delayed a single day, it is too late, and suppuration will take place. This happens at the root of the tooth, almost compelling its extraction; but more frequently the suppuration will be external, and admit of the discharge of the matter by an opening with a lancet. Remedies afford but little relief in this form of tooth ache. There is yet another form of this disease, which I have thought depended on rheumatism. The pain spreads along the jaw, so that the patient can hardly decide in his own mind which tooth is in fault. After days of suffering, he will probably insist on the extraction of some tooth which he thinks may be the cause of all the pain; but the operation is useless, and the pain will continue. No soreness of a particular tooth will enable us to determine the seat of the disease. Such cases are to be treated as rheumatism, and he may consider himself fortunate, who finds the disease to give way in a short time.

---

WOUNDS.

Wounds have been divided into several kinds, but it is my purpose to treat of such only as arise from incisions, or cuts, punctures, or those made by pointed instruments, and contusions or bruises. With punctures and contusions, we may well include gun-shot wounds, and lacerations of the flesh

which may vary a thousand ways. In all cases of wounds, the surgeon should first assure himself, that the flow of blood is stopped. If large arteries are divided, they are to be secured by ligatures, and if smaller ones continue to bleed, pressure is to be made on them in a way to arrest the discharge. Styptics, such as alum, lunar caustic, and blue vitriol, are admissible only in cases in which the flow of blood is from vessels not easily reached. In these cases, the application of either of these remedies, will exert a powerful control over the bleeding. When the hemorrhage is stopped, wounds are to be treated according to their character.

Cuts made with a clean sharp instrument, should be brought together exactly as the parts grew, and secured in their position firmly. The best means of doing this, is by securing the edges of the wound with adhesive plaster, and then passing a supporting bandage around the part. This bandage should be applied neatly and firmly, and the patient placed in a situation in which he will be least liable to move or separate the divided parts. This dressing should remain unopened for four days, when the wound will have healed. This simple treatment is all that is required for a common cut, and whatever is added, makes the matter worse.

But cuts are sometimes on parts which it is not easy to bring into their proper positions; in other instances, they are attended with considerable bruising and violence to the parts. These may, as far as practicable, be dressed in the same way, and remain till the fourth day, before the second dressing is put on. If the parts have not been perfectly adjusted, or there is much laceration or bruising in the wound, the healing will be found to have been but partial, and more or less inflammation and suppuration will take place. The second day will commonly produce pain and inflammation, which should be treated with cold applications. Cloths dipped in cold water, or poultices of slippery elm, may be used according to circumstances. The object is to keep the part moist and cool, and thus to hinder the spreading of the inflammation. Where there is suppuration and a loss of substance, the healing will be slower; but, for a week or more, the adhesive plasters and cold applications over them, should be continued. When the wound has thrown out granulations and assumed the appearance of a common sore, it is to be treated on the plan pointed out for ulcers.

Punctured wounds are more painful and dangerous than cuts. The most common wound of this description, is that made by treading on a nail, and having it enter the foot. Lock-

ed-jaw has frequently happened from this accident. But a wound from a bayonet, or small sword, is equally productive of irritation and pain, and similar wounds may happen in a thousand other ways. Wounds of this description often swell rapidly, and give violent pain; and, if sufficient inflammation follows them, end in suppuration.

The treatment of punctured wounds must vary with circumstances. Immediately after the accident, apply an adhesive plaster over the puncture, lay over this a compress of lint, and apply a tight bandage over the part. If the pain is considerable, give forty drops of laudanum. If the pain increases, and the swelling of the part is such as to endanger the circulation in the limb, take off the bandage, and apply cloths dipped in cold water. Where the parts punctured are tendinous, or near leading nerves, the cold applications sometimes increase the pain, and are beneficially exchanged for hot ones. Diligent attention is necessary in these cases, and the hot applications should be withdrawn as soon as the pain is lessened. Where the puncture is deep, hot applications should be avoided, as their tendency is to produce suppuration.

It has been recommended, to lay open a punctured wound to its bottom, by a free incision with a knife, and thus to make of it a wound entirely different. This is at best a doubtful policy. Punctured wounds sometimes get well as readily as cuts; others in which the incision is made, still run into a violent inflammation and suppuration. Besides this, these wounds often penetrate parts in which a deep incision would be dangerous, and ought not to be attempted by the unskilful.

Wounds from gun shot, partake of the character of contusions, as well as punctures. The violence of the injury destroys the flesh, and leaves an opening where the shot has passed. These wounds are less dangerous than punctures, because although they produce inflammation and suppuration, the matter readily escapes, and the cure, however retarded, is not prevented.

The dressing of gun shot wounds, should be very simple; a piece of lint laid over the wound and covered with a plaster of simple ointment, is most approved. The inflammation which follows should, for a few days, be treated with cold applications; but where the ball is large, and the injury of the part very great, warm poultices to promote suppuration, will be best. They should be discontinued when the wound ceases to be painful.

Little need be added with regard to wounds in which the

flesh is still more lacerated, and the parts more injured. As a general rule, the parts should be brought together and bound up firmly, care being taken that the bandages do not grow so tight by the swelling of the limb, as to stop the circulation in it. If parts are so injured, that it is impossible to save them, they should be amputated. But this is only to be attempted by a skilful surgeon, and I may say to such a one, be not too hasty in performing these operations, for many limbs recover from wounds which seem to offer very little hope.

---

## DISEASES OF THE SKIN.

The skin is not only an investment for the body, but performs functions essential to health and perhaps to life. We have described several important diseases, which display on this organ their characteristic symptoms; and it is now our purpose to give some account of those which attack the skin, either as original diseases, or result from some chronic general disorder. The difficulty of doing this, is increased by the want of terms in common language to express the variety of these disorders—most of them are without a common name. We shall notice only such as are most common, and these we shall not attempt to arrange in classes.

---

### PEMPHEGUS.

This is a frequent disorder, but so mild and transient, that it has not obtained a common name. It consists in an eruption of blisters with red bases, scattered irregularly over the body. These blisters soon form crusts or scabs, and in a short time fall off, leaving the spot a little red. In some cases, successive crops of these blisters appear, and hinder the recovery of the patient, for a considerable time, but in the end they all dry away.

#### TREATMENT.

The disease is often so mild, as to call for no treatment whatever; but where there is some fever, a cathartic of cream of tartar and sulphur, or a Seidlitz powder may be given. If there is much itching of the skin, apply a wash of twenty



grains of corrosive sublimate, and a drachm of sugar of lead dissolved in two ounces of water. Wet the eruption without rubbing, and let the part dry. Apply no oily application.

---

### SHINGLES—ZONA IGNEA.

This disease is an eruption on the skin, with considerable fever, and a burning and smarting pain in the part affected. Chilliness, headache, and pain in the back and limbs, precede the eruption. In a few hours, a stinging pain will be felt in the skin—commonly on the side, but other parts of the body are often affected. In a day, a cluster of little blisters will arise, which soon spread and several run together. A considerable inflammation attends, and the pain is often very intense. In three or four days, new crops of vesicles appear on the edges of the old ones, and the disease thus spreads, as if to surround the body, or the limb on which it appears. In this way the disease progresses, forming a kind of girdle about the body, not wider than the hand. But this girdle never goes entirely around, and in most instances, not half way around. It usually progresses for ten or twelve days, when it stops, and the eruption dries up and the scabs fall off. The discharge from this eruption is very small.

### TREATMENT.

Where there is much fever and sickness at the stomach, give ten grains of calomel, and follow it with a Seidlitz powder or other mild cathartic. If the patient is restless after the cathartic has operated, give thirty drops of laudanum, but do not repeat it again. The local remedies are not very well agreed on. In mild cases, nothing need be applied to the part; but where the burning and smarting pain are considerable, cooling remedies afford great relief. A solution of sugar of lead may be applied by means of cloths dipped into it. But I prefer the following application. Take two ounces of alcohol, and half an ounce of lapis calaminaris. Mix them together in a vial, and apply this to the part with a feather, keeping the mixture well shaken, and continuing the application for fifteen minutes at a time. The evaporation of the alcohol will cool the part, and the powder will be left to protect the tender skin, and to close such cracks as may happen in it.

I have often used this remedy with great benefit. It may be applied twice a day, till the disease ceases to spread.

---

### TETTER—HERPES.

A variety of diseases of the skin are known by the name of tetter. There are two varieties which I think it necessary to mention, the humid and the dry.

Humid tetter is attended with some inflammation and thickening of the skin, with blisters, which form in clusters, and soon run together and burst, causing a flow of watery fluid from the part. It may attack any part of the body, but is most frequently seen on the head and face. It is sometimes acute, running its course in a short time, with considerable inflammation, but more frequently it is chronic and continues without abatement for a considerable length of time.

The *crusted tetter*, or scall, attacks the skin in the same way, with clustered points of inflammation; but these produce supuration, and a discharge of more or less yellow matter. This matter is in very small quantity, and as it reaches the surface, dries into a scab or scurf on the skin. This scab is soft and porous, easily broken, and does not form a protection to the parts under it. This species of tetter occurs most frequently on the head, producing the common disorder, scalled head; but it attacks other parts of the body. These two kinds of tetter are very common; they are considered local diseases, but they are hard to cure. No alterative or general remedy of any kind seems to be of any service to them.

### REMEDIES.

The difficulty of curing these kinds of tetter, appears to me to depend on the seat of the disease, which is deep in the skin. The remedies applied destroy it on the surface, but leave it uncured below, and it soon makes its appearance again. It is manifest that escharotics, such as creasote, lunar caustic, or muriatic acid, destroy it where their application is perfect. But the scab, or the epidermis, intervenes and hinders the action of the remedy on the part affected. Plasters of pitch, or caps of tar, have cured many cases, but it seldom fails that some uncured spots remain, from which the disease will spread again. A writer of Europe says, that these diseases are more

common at the South than they are at the North. I say with equal evidence, that they are abundantly more prevalent at the North, especially in Europe; and that the myriads of vermin they describe there, have nothing to compare with them on the heads of the poorest negroes at the South.

The remedies most relied on, are intended in the first instance, to expose the ulcerated surface. This may be done by the application of cold water with towels kept constantly wet, and applied till all the scab or skin is removed. Then apply a solution of lunar caustic in water, thirty grains to the ounce, once in two or three days, and still keep up the cold application. Muratic acid may be used in place of this, or creasote may be a substitute for both. Now these remedies are exceedingly painful, and will frequently be avoided or rejected. They are sometimes sufficient, without making any effort to make the part raw for their application. Applied to the disease in this way, they are less painful, but much less effectual. It will be observed, that I mention the same remedies for both these varieties of tetter. This is done advisedly. The dry and crusted tetter are both diseases of the true skin, the same remedies must be used to reach them.

---

### DRY TETTER.

This variety of tetter resembles the rest, only in attacking the true skin, and producing more or less inflammation. It produces no suppuration or discharge of any kind. It attacks the skin of the hands and feet, sometimes extending to the nails. It is usually worse in winter than in summer, and appears to be worse in hands which are most exposed to wet and cold. In the skin it produces cracks with smarting and itching, and sometimes an oozing of moisture which evaporates, leaving a covering of white scales like bran.

This form of tetter is exceedingly obstinate, yielding in a temporary way to strong remedies, but returning again at its leisure. The best remedy I have tried is creasote, but lunar caustic, or a strong solution of corrosive sublimate may answer as well. Gloves should be worn on the hands, and shoes on the feet, of persons afflicted with this disorder. I think washing too frequently with soap is injurious. On the contrary, I advise the parts to be rubbed with simple ointment, to fill up the cracks in the skin at least once a day.

## RINGWORM AND BARBER'S TETTER.

I think I have not met with an intelligible account of these affections. The barber's tetter affects the face where the beard grows, and is thought to be contagious. I think this very doubtful, but the disease is very obstinate, and well worthy of notice. It resembles tetter in attacking the skin, and producing redness, itching, and pain. It does not extend to the roots of the beard, and never causes it to fall out, but the process of shaving keeps it constantly irritated and inflamed.

Ringworm is the most common of the tetter family. It makes its appearance in a red itching spot, which on inspection, will be found to be composed of a cluster of inflamed points. By degrees it will spread around, and the point on which it first appears, will recover, so that the disordered spot assumes the form of a ring. If suffered to go on, it may die at one side and continue to spread at the other, still preserving its arched form. It frequently spreads on the face near the eyes, and along the fingers, but never attacks the nails or the eyes. It is a mild disease, and easily arrested, but it is subject to return again.

I offer the same remedy for ringworm and barber's tetter. Take of sugar of lead, tartar emetic, and corrosive sublimate, each forty grains; laudanum forty drops. Mix all together in two ounces of water. Apply this mixture to the ringworm or tetter, two or three times a day, till it produces a decided increase of the soreness of the part. It is afterwards to be used according to the appearance of the eruption, taking care to reapply the remedy as long as the disease continues. The reader will perceive that this is a compound of more ingredients, than I usually make. The truth is, that I lately received it from a friend, and have made some satisfactory trials of it. The tartar emetic is the new part of the prescription in my hands; but I am ready to believe it the most important part of the remedy. Most cases of ringworm give way to remedies in more common use. A strong solution of copperas, blue stone, or corrosive sublimate, will commonly remove the disease by being applied to it early. But should it return, or prove untractable, I strongly recommend the above mentioned mixture.



## RED GUM.

A rash on the skin of teething children, is sometimes alarming to mothers, though not dangerous to the children. This rash is characterised by redness, itching, and thickening of the skin. The itching comes on in paroxysms, and produces great restlessness and crying, by which the heat and itching are increased. A dose of paregoric or laudanum, with a warm bath, is sufficient treatment.

---

## INTOLERABLE ITCHING.

Prurigo is the term which has been used to signify an intolerable itching of the skin, on any part of the body. It is entitled to be considered a disease, when from its long continuance or frequent returns, it becomes too annoying to be borne. It is not apt to occur on any of the extremities, but on the body, or about the anus or organs of generation. It sometimes follows a slight eruption of herpes or some other disease; but the itching affects the unbroken skin, and unless the surface is broken by scratching, there is no appearance on the skin to indicate the presence of the disease. The itching is always annoying, and becomes at times intolerable. It is often so bad that the patient will rub and scratch the part, till it becomes too sore to allow of its continuance. The itching will then subside, but return again at its time. This disorder, is thought to arise, from the diseases of important organs transferred to the skin; and many persons have better health during the continuance of this troublesome disorder, than at any other time.

## REMEDIES.

In slight cases of this disease, I think it best to avoid the use of remedies; but there are many instances in which the patient cannot consent to endure the pain if it can be relieved. The local remedies which have been recommended, are anodynes and astringents. Put a drachm of sugar of lead into half a pint of water, and add a table spoonful of laudanum. Bathe the part with this mixture for ten or fifteen minutes, and then dry the part, and apply heat in any convenient form. A heated smoothing iron, held over thick folded flannel, is a convenient and efficient mode of applying heat; and, in this dis-

ease, the heat is the most important remedy. The itching will in this way be controlled for the time; but its return is to be hindered by internal remedies. Arsenic is the best remedy for this purpose. Take of Fowler's solution, ten drops twice a day, and continue it for two weeks if necessary. If this gives no relief, take corrosive sublimate, about a quarter of a grain twice a day. The hydriodate of potash, may be tried if no relief has been otherwise obtained. Dissolve a drachm of this remedy in an ounce of water, and take twenty drops of it two or three times a day.

---

### LEPROSY.

The disease we call leprosy, differs widely from that described by Moses, as an infectious disease amongst the Jews. We have no contagious leprosy in the United States. The disease we call by this name, is an eruption on all parts of the skin. The inflamed skin throws out a crust or scab, which adheres closely, and after a few days is depressed in the middle, and raised around the edges. After a considerable time, this scab falls off, and another forms in its place. These scabs are of considerable size, some of them nearly an inch in diameter. They multiply on all parts of the body, so that the quantity thrown off is sometimes enormous. There is no discharge from this eruption, and the health of the patient is less affected, than might have been expected. It is, however, a loathsome and disfiguring disease, and no person affected with it will endure it longer than the direst necessity compels him.

### REMEDIES.

Frictions with mercurial ointment and warm bathing should be tried in cases of leprosy. It is acknowledged that they frequently fail; but I should still think this the best commencement of the treatment. The mercurial ointment should not be repeated more than once in four or five days; but it should not be hindered of its effect by bathing on the same day after its application. If symptoms of salivation appear, let the ointment be discontinued. The internal use of arsenic is more relied on in this disease. Ten drops of Fowler's solution may be taken three times a day. If the disease does not give way, a trial should be made of mineral waters containing sulphur.

The Indian Springs in Butts county, Georgia, afford the best water I know, of this description.

---

## ITCH.

The acarus, an exceedingly minute insect, is said to be the sole cause of this loathsome disorder. This insect, which I have neglected to search for, is said to be visible to the naked eye. It is active, and covered with a hard shell, and small enough to force its way into the skin through its natural pores. Satisfied when it is safe from dislodgement, it draws its nourishment from the body, and no doubt lives a life of ease and luxury. The irritation it produces causes itching, and has thus given name to the disorder. The small pustule which forms, is not the residence of the acarus. He sits securely ensconced in the epidermis, hard by, and may amuse himself, with the picking and searching often made in the pustule for him. He seems in fact to have as little use for these pustules as the patient. If you wish to find him, search a roughened spot near one of these pustules ; there open the skin with the point of a needle, and, if your eyes are very good, you will perceive a very small white body, which being laid on colored paper, will be plainly seen to move. This is the acarus or itch insect, and he is said to be so active, that it is not easy to destroy him with the point of a needle. It is said that the shell on his back is so hard, that it is not easily penetrated, and that he draws in his head and feet with great agility when he is touched. These observations I have not made myself, because they are not easily made without a microscope, and I have not thought it important to verify them. They are unquestionably true, and worthy of remark, because of all the diseases of the skin, the itch alone owes its origin to a parasitic insect.

## REMEDIES.

Sulphur is poison to the acarus, and therefore cures the itch. It has long been used by mixing it in lard, and rubbing it on the skin. The ill smell of sulphur, which is the more unpopular from its known connexion with the itch, has caused many to fly to other remedies. But the sulphur is the best, and should be applied daily, for a week, if necessary. While writing this article, I am taught by a friend, a more decent and

effectual way of using sulphur for the cure of the itch. Take a bucket of water, and throw into it an ounce or two of sulphur. Into this, dip a newly washed shirt and drawers, and rub them in the water till the sulphur is equally applied to every part of them. Dry them—put them on without ironing, and wear them a week. The itch will be cured, and the smell of sulphur hardly perceived. But there are other remedies for the itch. The common mercurial ointment of the shops, will, if rubbed on the parts affected, destroy the disease in about a week. The citrine, or yellow ointment is also a good remedy. Either of these ointments may, if used too profusely, produce a salivation. To prevent this, the skin should be frequently washed, and the linen changed. A more cleanly mercurial remedy, is a strong solution of corrosive sublimate in spirit. This may be applied to the skin. It will cause some smarting, but no other evil. I will mention one more cure for the itch. Take about a pound of poke root *phytolacca decondria*, boil it in two quarts of water, till the root is beginning to be soft. Bathe with this decoction warm. This cures at a single application; but it is the most painful, while yet it is the neatest of remedies. The effect it produces on the skin is so nearly like nettlerash, that it cannot be readily distinguished from that disease. It is to be used by those who are resolved to be rid of the itch; and by those only.

---

### FRECKLES—YELLOW ERUPTION, &c. &c.

There are several slight affections of the skin, which deserve a passing notice.

Freckles are so easily produced on some persons, that no prudence can avoid them. They are increased by exposure to the sun; and it has been suggested, that light, even in snowy weather, will cause them to appear. They are situated on the pigment of the skin in which the color or complexion resides. I regret to add, that no remedy for them has been discovered.

---

### YELLOW PATCHES—CHLOASMA.

This affection is not uncommon, but has not obtained a common name. It appears on the face in pregnant women, who



recover from it after accouchment. On other persons, it is seen about the neck or breast, and is sometimes a blemish which it is desirable to remove. Stimulating washes, such as Cologne water or brandy, have been advised. Two grains of blue pill or a quarter of a grain of corrosive sublimate twice a day, are more entitled to confidence. The disease never produces much deformity.

---

### GRUBS—COMEDONS.

About puberty, the sebaceous glands of the nose and forehead deposit a substance in the skin, which produces rough and pointed tumors, from which little bodies may be pressed by the finger nails. These bodies have been called worms or grubs. They are however, neither worms nor a sign of disease; and they will cease to appear after a year or two. They may be pressed out from time to time, and it is thought, that stimulating washes lessen and remove them. Cologne water may be used with as much pleasure as benefit. A solution of sulphate of copper applied daily, has been of great service in some cases.

## DISPENSATORY.

---

If the reader had before him, the thirteen hundred and sixty-eight pages of Wood and Bache's UNITED STATES DISPENSATORY, he would naturally wonder at the small number of articles, which I have thought it necessary to mention in my DISSERTATION ON THE PRACTICE OF MEDICINE. The young physician, will I apprehend, be a good deal surprised, that I have not recommended, a great many more, of the remedies which are acknowledged to be of great value. I have but one excuse to offer. I have found by experience, that success in the treatment of diseases, does not depend on the number of remedies used. I have been taught that, though the number of remedies is great, their modes of operation are few. And although I acknowledge, that there is in nature, a special adaptation of certain remedies to the removal of certain diseases; I believe that the discoveries of such remedies, are as yet very few. If we were limited in our prescriptions, to the use of such remedies only, as are known to have special power over the disease for which they are given, our "*occupation*" would be gone. Fortunately, the science of medicine is not thus limited. We combat the known and visible effects of disease, by opposing to them the known and visible powers of remedies. All that we can reasonably attempt, can be done with a small number of remedies. I can say with truth, that I have learned by experience, to rely on a few remedies of known value. Holding myself at all times, ready to accept with joy, any and every improvement in my favorite science; I offer the following remedies, with great confidence, that they are the best we have; and that they will prove sufficient in hands which are capable of using them properly.

### ADHESIVE PLASTER.

It is a great object in the treatment of wounds and ulcers, to have plasters which adhere with sufficient firmness to the skin, to hold the parts together, and secure their perfect adjustment and support. This is accomplished by Griffith's Adhesive Plaster, an article now I believe, sold by every druggist in the United States. This plaster should be kept in eve-

ry family. It is applied by being cut into strips, and after being gradually warmed, drawn firmly on the part. This plaster adheres with sufficient firmness, and may yet be removed without much force. It does not soften from the moisture of the part, nor even by the free application of water. It should be known, that there is nothing in the quality of plasters, to promote the healing of wounds or ulcers. Healing is a process of nature, and when the impediments to it are removed, it takes place of itself. Any other plaster which will adhere as firmly, will answer as well as that I have recommended. I have seen a wound very well treated by laying on it strips of rag dipped in copal varnish. This forms a very adhesive plaster, but requires that the part should be kept still, till the plaster dries. It is objectionable on account of the oil of turpentine it contains, which renders it too stimulating.

#### ALCOHOL.

I will not fatigue the reader with the history of alcohol. This with its baneful effects, he has heard from a thousand tongues. It is my business to speak of it as a valuable remedy in the cure of diseases, and as a still more valuable article, in preserving, keeping, and preparing medicines for use.

Alcohol is a light transparent fluid, of an agreeable odour, and of a pungent and burning, but not disagreeable taste. It is a powerful stimulant, and when taken in excess, produces temporary intoxication. In a portion still larger, it is a fatal poison. The intoxicating property of brandy, wine, porter, cider, and all other distilled and fermented liquors, depends on the alcohol they contain.

The preservative power of alcohol, gives to it great value. A piece of flesh dropped into it remains sound for any length of time; medicines dissolved in it, are preserved unchanged, and many substances which it will not dissolve, are still advantageously preserved by it.

The value of alcohol as a medicine, is universally acknowledged. Too strong to be administered undiluted, it is taken in the form of distilled or fermented liquors. Brandy, wine, and porter, are the most valuable of these, and deep is the regret I feel in being obliged to say, that they are to be advised with due regard to the danger of their becoming by frequent use, a beverage too agreeable to be used with proper restriction. Experience warrants me, at the same time in saying, that the use of spirit, or wine, in the treatment of diseases, is

very seldom the cause of habits of intemperance. I have seen men too fond of their bottle of bitters, but they were such as had no objection to a glass of grog without bitters. I have never met the man who could say to me, that he was made a drunkard by a physician's prescription.

I have said that excess in the dose of alcohol, would prove fatal. I witnessed a case of instant death in a child, from drinking brandy. It had gotten on a chair near a table, and had taken from a bottle a quantity of brandy, not more than half a pint. It was heard to fall, and was taken up, a lifeless corpse. Used in a gradual manner to produce exhilaration, its effects are slow, but destructive.

*Medical properties and uses.* The uses of alcohol in the treatment of diseases, are many and important. It is, in its operation, a pure stimulant; more efficient in imparting to the system a temporary vigor and exhilaration, than any other. The most common form in which it is used, is distilled spirits. French brandy, as we term the brandy distilled from wine, is considered the most palatable. I know of no reason why it should have a decided preference, over other good spirit. Half an ounce, or a common table spoonful, is a reasonable portion to one unaccustomed to its use, but a larger quantity may be safely taken. To persons who are debilitated, from whatever cause, if there is no inflammation present, a moderate use of spirit of this description is beneficial. The most temperate, and healthy men I have known, have taken before breakfast and before dinner, a moderate drink of brandy and water. But fashion has dispensed with the morning, and increased the dinner portion. But it is only the sickly and debilitated, who should use this article as a beverage. Its use in excess, cannot be too much deprecated.

As a remedy in acute diseases, alcohol is invaluable, and its place cannot be advantageously supplied by any other. When from the sudden onset of disease, the system is prostrated, the face pale, pulse feeble, and extremities cold, brandy in quantities proportioned to the violence of the case, is often a powerful remedy. When a similar prostration takes place from violent fatigue, or exhaustion, it is equally proper. The quantity which may be required in such cases, cannot be accurately defined. From half an ounce to two ounces in sugar and water, may be taken at a time, and repeated hourly till the desired effect is produced. In diseases which have a definite course to run, such as fever, small-pox, &c., there comes on at the



close of dangerous cases, a state of exhaustion, in which this remedy is superior to all others.

## ALOEES.

This is a very important medicine, and several varieties are met with. That most commonly used in this country, is produced on the Cape of Good Hope, and imported into the United States from England. It is a solid gum, of a dark and shining greenish color. The other varieties of aloes, do not differ very widely from this, and the medical properties of all are about the same.

*Medical properties and uses.* Aloes is a cathartic of peculiar properties. It is mild in its operation, producing discharges from the bowels, which are rather solid than fluid; operating about as freely in moderate as in considerable doses, and leaving the bowels excited to further action without medicine. These properties it possesses, in a degree so eminent, that few inventors of patent cathartic pills, venture to leave it out of their secret compounds. It is at the same time a general stimulant, and produces when too frequently used, great excitement of the rectum and neighboring parts. Aloes is also an emenagogue, producing manifest increase in the menstrual discharge. These properties give to this article an importance, attached to few others. Given in small and frequent doses, it removes costiveness and promotes digestion; it promotes the flow of the menses, and is therefore, of great value in the treatment of diseases attended with the obstruction of that discharge. Its indiscriminate use has been productive of great mischief. It is improper in all inflammatory disorders, and particularly so, in piles and other disorders of the rectum. It is also hurtful to females, whose menstrual discharge is commonly excessive. The dose of aloes is from three to ten grains—even twenty grains may be safely given, but such a dose is seldom requisite. It is seldom advisable to give it alone, and it is beneficially combined with other, and less heating articles. The most convenient method of giving it is in pills.

## ALUM.

This common article is a neutral salt composed of sulphuric acid, combined with clay and a small portion of potash. It is found in certain ores, and prepared by dissolving it in water, and evaporating the solution.

*Medical properties and uses.* Alum is a powerful styptic and astringent, free from all poisonous qualities, and therefore doubly valuable in common hands. Given internally, its tendency is to arrest the discharges by the bowels, to suppress hemorrhage, and in general to perform all the offices of an astringent. To effect these objects it should be given in small doses—from three to ten grains once in three or four hours. In larger doses it operates as a cathartic; and has great reputation for its beneficial effects in painter's colic. From thirty to sixty grains, given every two hours, will operate as a cathartic. In still larger doses, it is an emetic. From one to two drachms given every five minutes in water, is a prompt and safe emetic. I have given it with great advantage in certain cases of croup. Now all these effects can be brought about by the use of alum when the modes of administering it are properly understood; but there is in the use of it, another great advantage in its safety. As an external application, alum is still more important. In certain diseases of the mouth and throat, where there is ulceration or raw surface, it is a ready and effectual remedy. Used as a gargle, by dissolving it in water, or in sage tea, it is very effectual in arresting the diseased action. For this purpose, a drachm of alum may be dissolved in half a pint of water or tea. As an application to fungous, or proud flesh, its use is general. For this purpose, it is commonly burned and powdered; but it is unchanged by this process, and answers the same purpose if simply powdered. It should not be applied too often, as it will hinder the healing of the ulcers.

#### ARSENIC.

This dangerous poison, is also a remedy which it would be improper for us to discard. I recommend only a single preparation of it; but think it proper to remark, that this poison is fatal if taken in too large doses internally, and very unsafe as an external application. Two or three grains taken internally, would be dangerous to life. Applied externally, it is a powerful escharotic, but liable to be absorbed and produce permanent injury. It has performed many wonderful cures, but should only be directed by an experienced physician.

#### ARSENICAL SOLUTION.

This remedy is sold by our druggists, and the mode of preparing it is uniform. It is known by the name, of Arsenical

solution or Fowler's solution. This remedy is given with great advantage in obstinate ague and fever, and in several diseases of the skin. The dose is from five to ten drops, and may be repeated two or three times a day. It should not be continued more than a week or ten days without some interval, for fear of producing paralysis, tremors, or other nervous disorders. A swelling of the feet like dropsy, sometimes arises from its use ; but this has never resulted in any permanent injury, so far as I have observed.

#### ASAFETIDA.

Asafetida is a resinous gum of a reddish brown color, and very offensive smell. It is said to be obtained from Persia, though it reaches us through the English commerce of India.

*Medical properties and uses.* Asafetida is a powerful antispasmodic and moderate stimulant, and if given in large doses, a mild laxative. Its offensive odour, which resembles, but far exceeds that of garlic, has a tendency to limit its usefulness. There are many complaints in which it is the best remedy in our possession. Its greatest influence is exerted in hysterical and nervous disorders. In spasmodic and convulsive diseases, it is also given with advantage ; and in diseases of the lungs, where there is difficulty of breathing from spasm, or palpitation of the heart, it is a valuable remedy. Its influence on the healthy action of the system, is so agreeable, that persons who use it acquire a fondness for its taste and smell, and it is said that in the country in which it grows, the plant which produces it, is eaten by men as well as other animals. I ought not to omit to mention, that it has had great reputation as a remedy in whooping cough, and in the dry cough which is frequently met with in old persons. The dose of asafetida is about ten grains, and it may be given safely in doses of twenty or thirty grains, but such doses may prove cathartic. The most convenient way of giving it, is in pills, but it is also made into a tincture, of which from thirty drops to a tea spoonful may be given in water.

#### AMMONIA.

Ammonia in its pure state is a transparent gas, with powerful alkaline properties. In medicine, it is used in its various combinations, with acids with which it forms solid salts, and with water or alcohol in which state it is fluid. In its combinations with various acids, it acquires properties so widely

different, that it requires close observation and experience to use them safely. In combination with carbonic acid, it retains in a great degree its alkaline properties, but when combined with muriatic acid, it is a neutral salt. Although ammonia in several of its combinations, has been long considered a standard article of medicine, it is but lately, that its peculiar relation with animal matter has attracted much attention. In the forms we most frequently use it, we are liable to be disappointed in its effects, by its readiness to form chemical compounds with the fluids of the body. These combinations we can neither foresee, nor can we well estimate their consequences if we do foresee them. The subject is one of deep interest, and I look forward to the time, when this article is to assume an importance in medicine which is little expected.

*Medical properties and uses.* In the water of ammonia, we have this medicine, in its purest and most available state. This article is known in commerce by the common name of spirit of hartshorn. It is a transparent pungent fluid, and in general use as a sternutatory. In over doses it is a corrosive poison ; but in doses of from ten to thirty drops, largely diluted with water, it is a valuable stimulant qualified to arouse the energies of the body, without oppressing the brain or nervous system. Applied to the skin, it produces redness, pain, and if long continued, blistering. A more elegant preparation of this article, is the *aromatic spirit of ammonia*. This is generally preferred to the water of ammonia on account of its agreeable flavor. It may be given in doses of from twenty to sixty drops. The muriate of ammonia has not been much used as an internal remedy in this country. On the continent of Europe, it is said to be now used extensively in several chronic disorders, particularly such as affect the liver and spleen. It has been recommended in many diseases, but I have seldom known it used. The dose is from five to thirty grains repeated several times a day.

After all our investigations, it must be acknowledged, that our knowledge of the medical properties of ammonia is very limited. It is an article of deep interest, and worthy of close observation and study.

#### BALM.

This is a perennial plant, and being considered medicinal, is to some extent cultivated in our gardens. It is a mild and very gentle stimulant, and favors the flow of perspiration. It may be used when its flavor is more agreeable than other ar-



ticles, but I do not consider it a medicine. It has an agreeable flavor when green, but loses it in drying, and is therefore only fit for use when freshly gathered. It may be beneficially used, in infusion or tea, during the administration of sweating medicines. This infusion has been extensively used by the sick in febrile diseases, and there is nothing more innocent in its effects.

#### BLACK HELLEBORE.

This is a famous medicine of the ancients, who used it in many diseases. It is a perennial plant, and the root is the part used. In large doses it is a drastic emetic and cathartic, and sometimes productive of dangerous symptoms. Its efficacy in promoting the menstrual discharge, is the only quality which preserves for it a place in the practice, and even this power is disputed. My own opinion is, that it is a powerful emenagogue, and has in particular cases an activity not easily explained. To some persons who have painful and deficient menstruation, this remedy effects every thing which could be desired of it, while in others apparently under the same circumstances, it signally fails. The preparation of black hellebore which I recommend, is the tincture, and this should always be prepared by the druggist. The dose is from thirty to sixty drops two or three times a day. It should not be continued more than three or four days at one time.

#### BLUE STONE.

The sulphate of copper, or blue stone, is an article of too much activity, to be used as an internal remedy, unless it had particular powers which other remedies do not possess. Not believing it to possess these powers, I do not recommend it as an internal remedy. Applied externally, I consider it an article of considerable value. A solution of about two grains in an ounce of water, is a valuable remedy in inflammation of the eyes. It may be applied by dropping into the eyes once or twice a day. A solution of twenty grains to the ounce is often beneficial to indolent ulcers. Applied by means of lint dipped into it, and laid on such ulcers, a rapid change is often brought about, and healing accomplished. In various species of tetter, this is also a good remedy, but when there is much sensibility, it is a painful application.

## BORAX.

The medical virtues of borax, have been less investigated than its value would justify. It is a mild neutral salt, refrigerant and diuretic in its effects, and thought to be also a valuable emenagogue. It is free from poisonous qualities, and may be given internally in doses of from ten to thirty grains. But I have seen but little of its use except as a detergent in certain ulcers. In thrush or other forms of sore mouth in children, it is a valuable remedy. Take two drachms of borax in fine powder, and mix it with an ounce of syrup or honey. Apply this to the ulcers twice a day. In diseases of the skin, such as tetter, or ringworm, a strong solution of this article may be applied two or three times a day with benefit. It has the advantage of mildness and safety, and should be used oftener than I have been in the habit of seeing it done.

## BURGUNDY PITCH.

This article is only used as an external application. Spread on cloth or on fine leather or buckskin, it forms an adhesive plaster, which will adhere firmly for many days. Its effect is to stimulate, and redden the skin, and in some cases to excite considerable irritation and blistering. It is beneficial as a strengthening plaster when applied to the back of debilitated persons. Applied to the breast, it is often beneficial in removing chronic pain. It should be obtained from the apothecary when wanted, as it is not easy to preserve it for a great length of time.

## CAMPHOR.

Camphor, although a solid substance, resembles in its composition and medical properties, the essential oils. As a mild and agreeable aromatic, it is in the hands of every one. As a remedy for internal use, its properties are a matter of great uncertainty, some classing it with the most powerful stimulants, while others regard it as a sedative. I have prescribed it very often, and offer my opinion without claiming for it any particular respect.

Applied to the skin, dissolved in alcohol or proof spirit, it is a mild stimulant and comforting anodyne. It is useful in rheumatic pains, and other disorders producing local pain. The odour inhaled, is not only agreeable, but in a high degree exhilarating, and more beneficial in cases of fainting or sudden

prostration, than any other article with which I am acquainted. As an internal remedy, it is a mild stimulant and gentle anodyne, and promotes perspiration in a remarkable degree. Its effects vary with the mode of administering it. In doses of from three to five grains once in two hours, it is a gentle anodyne, and gives a moderate support to the system, without producing any exhaustion afterwards. In larger doses it flushes the face, increases the force and frequency of the pulse, and produces some confusion of intellect. If the dose is increased to twenty grains and repeated, it will produce vertigo and deep sleep or delirium. I have known an over dose produce a sudden vomiting, followed by a total prostration of strength, which in a few minutes resulted in a deep sleep, from which the patient could not be aroused for many hours. This is the worst evil I ever witnessed from the use of camphor, and considering it as a remedy in universal use, I could not say more in proof of its great safety. The remedy is freely recommended to the common reader, in low, nervous, and hysterical disorders; and as a stimulant in the low stage of typhoid fever. To those who without being very ill, find it necessary to use some stimulant, camphor commends itself as an article which was never known to be the foundation of intemperate habits.

#### CASTOR.

Castor is an animal substance, derived from the beaver, and resembles musk in its medical qualities. It is a dark brown substance, of disagreeable odour, and of an acrid nauseous taste. Its medical virtues are extracted by alcohol, and it may be administered in substance or in tincture.

*Medical properties and uses.* Castor is a nervous stimulant, and may be given with great advantage in hysterical and other nervous and spasmodic diseases. It is thought to promote the menstrual discharge, and has been much used in fevers of a low grade. The dose in powder, is ten or fifteen grains; but it is oftener given in tincture, in doses of from twenty to sixty drops. I think castor a remedy of great value in nervous diseases, and in hysteria, it is second only to asa-fetida.

#### CASTOR OIL.

This remedy is a fixed oil, obtained from the seeds of the *palma christi*; a plant originally from the East Indies, but now familiarly known in the Southern and Western States.

The best castor oil is obtained by pressure, and is known by its pale color, and mild inoffensive smell. It should be transparent, colorless, and nearly tasteless.

*Medical properties and uses.* Castor oil is a mild, but very efficient cathartic. It is highly esteemed for the ease and briskness of its operation, and is given to pregnant women, and to persons affected with diseases requiring the free discharge of the contents of the bowels with the least pain and irritation. Children take it with great safety, and require doses, larger than would be suited to their ages, when the proper dose for grown persons is considered. Great care should be taken in procuring oil that is good, and free from the clouded and muddy appearance sometimes seen in it. Such oil is apt to produce griping and intolerable sickness during its operation. The dose of castor oil, is two table spoonful or a fluid ounce. A child six years old may take a table spoonful. These doses may be repeated every two or three hours if necessary.

#### CATAPLASMS.

Cataplasms, or poultices, are medicines for external application. They should be made of substances sufficiently adhesive to remain on the part they are applied to, but soft and moist enough, to be removed at pleasure. It is no longer believed that they possess medical powers at all corresponding with the qualities of their ingredients. There are some articles—tobacco for instance, which applied in this way, affect the system generally ; but such articles should, if used at all, be given in doses well ascertained, and by no means applied in a way so uncertain as in poultices. As a general rule, poultices should be made of substances mild and inert, and qualified to produce softness, warmth, and moisture. If a stimulating effect is desired, it is best obtained by adding a portion of powdered mustard or cayenne pepper. The whole benefit of poultices or cataplasms, can be obtained by those made of crumb of wheat bread, Indian corn meal, flax seed meal, or the powdered bark of slippery elm.

#### CATHARTICS.

I have neither time, nor room, to treat of this subject according to its merits ; but I consider it a sacred duty to warn the world at large against the abuse of remedies of this class. The effect of cathartics, is to cause discharges from the bowels ;



and these discharges are in several ways altered by the operation of these remedies. Persons readily conclude that, if a cathartic produces offensive discharges, it of course does them good, and ought to be repeated. Millions are annually expended for quack remedies, from reasoning so weak and faulty as this. Others a little wiser, know that the feculent matter which is proper to the bowels, may be offensive to the senses. They avoid the use of cathartics, except their bowels become a little torpid. They do not know what degree of costiveness may be compatible with health, and swallow pills, as they think to assist nature. Thus they begin a career of pill-taking, to which they may not easily find an end. Let it be borne in mind, that taking a cathartic is not an act of indifference. It should be done, only when it is necessary, and not repeated, if it can be avoided.

The articles which produce a cathartic effect, are almost innumerable. They have peculiarities, and are divided into classes. The most active are called drastic, and are used to procure the most copious discharges from the bowels. Jalap is an example of these. Hydragogue cathartics produce copious watery discharges. The varieties of salts are of this description. The mild and stimulating cathartics, excite the bowels to discharge their contents, and are for common use, by far the least objectionable. Castor oil, rhubarb, senna, and aloes are remedies of this description. These may be taken, with more freedom, and repeated with less injury, than almost any others with which I am acquainted.

#### BALSAM OF COPAIBA.

This is a peculiar resinous substance, obtained from a tree which is the growth of several countries. It is a transparent fluid, of an oily appearance, and has a disagreeable odour and nauseous taste. It is a valuable remedy, because its action is well understood, and we have no other substance at all to compare with it in producing its peculiar effects.

*Medical properties and uses.* When swallowed, the balsam of copaiba produces an irritating and burning heat in the throat, which, if the dose is large, extends downwards to the bowels, producing more or less griping and cathartic operation. It also produces an increased secretion of urine, and a decided effect on the whole mucous surface of the bladder and urethra. If continued in large doses, it is exhaled from the lungs, and may be smelled in the breath; and it produces a strong

impression on all the mucous surfaces of the body. Finally, it produces in some cases, an irritation on the skin, which is compared by some to measles, and by others to nettlerash. But this effect is not often produced by it. These properties give to balsam copaiba a decided place in the treatment of several diseases. In disorders of the mucous surfaces of the lungs and intestines, it is a valuable remedy, but requires judgment in its exhibition, and frequently disappoints our expectations. In affections of the urinary organs, it is often our best remedy. In gonorrhœa, and in many cases of leucorrhœa and gleet, it is decidedly our best remedy. It is not forbidden by the presence of inflammation, unless it extends beyond its usual range in these diseases. There are few articles of the materia medica, the loss of which would be more seriously felt. The dose of balsam copaiba is from twenty to sixty drops, and it may be repeated three or four times a day.

#### CUBEES.

This medicine is composed of the seeds of an Eastern climbing plant, and in its appearance very much resembles black pepper. It is a moderate, and not ungrateful stimulant, and besides being diuretic, operates as a general stimulant of the mucous surfaces. It is a valuable remedy in gonorrhœa, gleet, leucorrhœa, and in some affections of the kidneys and bladder. The dose is a drachm or more, when given in gonorrhœa ; but in cases of chronic cough or other diseases unattended with inflammation, it may be given in smaller doses and continued longer.

#### EMETICS.

The disagreeable and revolting effect of emetics, has hindered them from being the foundation of a thousand quack medicines, and thus very much benefited the world. They are, in their place, of great value. The articles which will cause the ejection of the contents of the stomach, are very numerous ; but in the practice of medicine, a very small number are used. Some of them act with great promptness, causing the contraction of the stomach and throwing off its contents without producing any further effect. The article of this character which is most frequently used, is sulphate of zinc or white vitriol. It is used for the rejection of poisons from the stomach, as well as for the cure of diseases. In the treatment of diseases, ipecacuanha and tartar emetic, are considered the

best. The ipecac is the mildest, but produces its effect with great certainty, operating also as a mild cathartic when not thrown off from the stomach. Tartar emetic is much more powerful, and is unquestionably one of our best remedies. It is not very prompt in its action, but produces great nausea and profuse perspiration, as well as a powerful emetic action. In small doses at long intervals, it produces nausea, and finally operates as a cathartic. It is a powerful sedative, and useful in many dangerous inflammatory disorders.

#### ERGOT.

This is a remedy derived from a disease of grain, particularly rye; in which it produces an enlargement and alteration of the grain, which is well compared to a cockspur.

*Medical properties and uses.* The sensible effect of this remedy, when taken in small doses by men, is scarcely to be noticed. In large doses—an ounce or more, it produces stupor or vertigo, with great prostration of strength, and weakness of the pulse. When from its occurrence in the rye, of which the bread of the poor in Europe is made, it has been taken in large quantities, wide-spread disease, with gangrene and other dangerous symptoms, has prevailed.

All these qualities in ergot would not have obtained for it a place in our small dispensatory; but for one quality, which fully entitles it to our notice. A drachm of powdered ergot, divided into three doses, and one given to a female every fifteen minutes, will produce a powerful and painful contraction of the uterus, which will last for some time. This specific effect of ergot is a well established fact, although it does not happen in every instance. The remedy is now well established, and in daily use for increasing the pains of labor, to promote the birth of the child, when nature in her own movements is too slow. This is the principal use of ergot; but its administration requires judgment, and it should not be given, except by the advice of a *physician*.

#### ETHERS.

“Ethers are peculiar, fragrant, sweetish, very volatile, and inflammable liquids, generated by the action of acids on alcohol.” The ethers most used in medicine are the sulphuric and the nitric.

## SULPHURIC ETHER.

In common language the term ether, is used to signify sulphuric ether. Taken internally, this is a powerful diffusible stimulant, but it is transient in its operation. It is used in painful and spasmodic diseases. The dose is from forty drops, to a tea spoonful; but it evaporates so rapidly, that it ought not to be given in drops, but rather by measure. The property of producing giddiness, intoxication, and stupor, by being inhaled, has lately been a good deal noticed, in sulphuric ether. The effect it produces is very decided, and wants only a knowledge sufficient to regulate its force, to become an important remedy. I have administered it, by pouring it on a handkerchief and applying it to the nostrils, and have found it to relieve the most violent pain in a few minutes. In the same way, I have seen it used to destroy sensibility, that operations in surgery might be performed without inflicting pain. In some of these experiments, it has been entirely successful, and I see no reason, why it should not continue to be used in this way. It is considered less dangerous than chloroform.

## SWEET SPIRIT OF NITRE.

This is the spirit of nitric ether, but sufficiently known by the above title.

*Medical properties and uses.* This mild diuretic, and excellent sudorific is much esteemed in medicine. It may be safely used in fevers, and is not forbidden by a full pulse and great heat. The dose is a tea spoonful once in two or three hours, and when it is given as a diuretic, it may be given in larger doses. It may be combined with other remedies or given alone.

## GALLS.

Galls are excrescences formed on the tender shoots of the oak, by the puncture and deposit of its eggs, by an insect. The gall is at once the nest and the nutritive food of the young insect; those met with in commerce, are produced on a diminutive tree of the East.

*Medical properties and uses.* The oak gall is a valuable astringent medicine, containing in a concentrated form the tannin which is the most active ingredient in the bark of the various kinds of oak. As an internal remedy, it is considered a pure astringent, and much relied on for the relief of chronic



diarrhœa, and other wasting discharges. It is said to arrest the operation of tartar emetic sooner than any other remedy. As an external remedy, it is valuable for the destruction of fungous flesh, and especially so, in the proud flesh which often arises on burns. It forms a valuable ingredient in gargles, and in injections used for gleet and leucorrhœa. The dose of powdered galls, is from ten to twenty grains, to be repeated several times a day.

#### GAMBOGE.

This is a gum resin, obtained from China and other countries of the East. It is a hard brittle substance, and when reduced to powder or united with water, of a beautiful yellow color.

*Medical properties and uses.* Gamboge is a powerful hydragogue cathartic, and very apt to produce vomiting when given in a full dose. It is a valuable remedy in dropsy, and in cases of obstinate constipation. In combination with other cathartic medicines, its action is modified ; and it is one of our most valuable cathartics. With aloes it forms a mild cathartic ; with calomel it is more active ; and with jalap it is one of our best remedies for dropsy. The dose of gamboge is from two to six grains, and it may be given in pills or in powder.

#### GENTIAN.

The tribe of plants known by the name of gentian, are remarkable for their bitterness, and several varieties are thought to be almost identical in medical properties. There are two kinds known at the South, one with blue flowers, growing on wet clay bottoms, and the other with pale whitish flowers, growing on high sandy hills. Their branching fleshy roots are scarcely distinguishable from each other, and their taste and medical properties are about the same with the gentian of commerce. The yellow gentian of which we are now to speak, is a plant of the mountains of Europe, differing from the rest of its kind, in being larger and probably more abundant. The root only is used in medicine.

*Medical properties and uses.* Yellow gentian is a pure bitter, with nothing to distinguish it from other bitter plants, except the purity of its bitterness. As a medicine, it is in a high degree tonic, and to such as are accustomed to it, agreeable to the taste. I think it possesses all the virtue as a medicine, which is to be found in plants which are merely bitter in their

taste. It is with good reason that it is preferred to other plants, for the formation of bitters, and infusions for debilitated persons. It furnishes the bitter ingredient in our best tinctures or bitters—is conveniently used in infusion or decoction, and when boiled down, furnishes an extract easily made into pills, which contain all its virtues. It is in fact the chief of bitter medicines, and there is very little benefit in having many articles of this description. The dose of the root in powder is about thirty grains; the dose of the tincture is from one to three drachms, and of the extract, from five to ten grains.

#### GUM ARABIC.

The acacia gum is the product of a thorny tree of the sandy deserts of Asia and Africa. It is a pure gum, but without any medical properties. It is however, in several respects, useful to the sick. An ounce of it, put into a pint of boiling water, makes a mucilage which is not unpalatable, and is much used as food in inflammatory disorders. It is the lightest of food, and not entitled to much preference over other articles. In compounding medicines, its tenacious quality is available in the making of pills, and in making mixtures with water. It is also used in mixtures for coughs, which depend on irritation about the throat. But the value of this article, is greatly enhanced by the fact, that it neither decays nor alters by keeping. A powder of gum Arabic if kept dry, may be relied on after the lapse of years.

#### IODINE.

“Iodine is a soft, friable, opaque substance, in the form of crystalline scales, of a bluish-black color, and metallic lustre.” When moist, it evaporates in the open air, producing a dense, heavy, purple, vapor. It is an elementary substance, obtained from the ashes of certain saline plants by a difficult chemical process. It enters into combination with many substances, and especially with the metals.

*Medical properties and uses.* It is not yet forty years since the discovery of iodine; but its extraordinary properties have been to physicians, a subject of unremitted attention, and it is now universally acknowledged to be a remedy of great value. Its effects as a medicine, it may be readily supposed, have not yet been fully ascertained, and great diversity of opinion yet prevails in regard to them. Some of its very important effects,

may be considered as sufficiently established. Taken internally, in moderate doses for a length of time, it produces great activity in the absorbent vessels, causing tumors of various kinds to disappear. This power is especially manifest in goitre, which disappears under its use with great rapidity. Given in excess, and too long continued, it has caused the entire absorption of the female breast, and also of the testicles of the male. But these accidents are so rare, that I have never seen either of them. This power of causing the absorption of the solid matter which has been deposited by disease, has attended the use of iodine in many disorders, especially scrofula and syphilis. As an external remedy, its powers are acknowledged to be of the first importance. It is thought to be readily absorbed through the skin, producing not only a powerful local effect, but operating generally on the system. The excitement it produces on the skin is immediate, and easily carried up to the point of blistering. It is also thought to produce a general excitement of the powers of life, increasing the digestive functions and general health. Its combinations with iron, with mercury, and with potash, are becoming standard remedies of decided value. The dose of iodine is from half a grain to two grains, once or twice a day. I am in the habit of making a tincture, by dissolving forty grains of iodine in an ounce of alcohol, and giving from ten to twenty drops twice a day. I apply the same tincture externally with a feather, but it is to be desisted from when the skin acquires an orange color; otherwise, considerable pain and blistering take place. If too large a dose of iodine is taken, and great burning at the stomach ensues, starch should be swallowed without delay. Its action on the skin is also instantly arrested by the application of starch. The preparations of iodine; especially its combinations with mercury and iron, are to be preferred in most cases, to its use alone.

#### IRON.

Iron is the most extensively diffused of the metals, and is above all others distinguished for its usefulness in the arts of life, and value as a medicine. It has long been known as a remedy; its preparations being powerfully tonic, raising the pulse, increasing the appetite, and increasing the coloring matter of the blood. They are useful in diseases attended with debility, more especially those which are brought on by excessive discharges. They are used in cachexiæ, chlorosis, hysteria, dyspepsia, scrofula, and other diseases requiring reme-

dies, restorative and strengthening in their qualities. It is given as a remedy in its metallic state, or in chemical union with other bodies. Its combinations with oxygen, are the most commonly used, but with acids and with alkalis, it also forms compounds of great value. All of its compounds are distinguished by their freedom from all poisonous qualities. It may be proper to mention the doses of a few of its preparations. The dose of sulphate of iron is from one to five grains. If dried for making into pills, the dose is less by one third. The subcarbonate is given in doses of from five to thirty grains. The precipitated carbonate of iron, may be given in the same dose, and the muriated tincture may be given in doses of from ten to thirty drops.

#### JALAP.

Jalap is the root of a climbing plant, and is chiefly obtained from the province of Vera Cruz, in Mexico. It is a standard remedy, and extensively used in all parts of the world.

*Medical properties and uses.* Jalap is a powerful cathartic, operating briskly, and producing copious watery discharges. Given alone, and in large doses, it produces griping pains, and if the dose is too large, its operation may be too violent to be safely risked. It is therefore commonly combined with some milder cathartic. With calomel, it forms a cathartic, which has probably been more used at the South, in the treatment of bilious fever than any other. United with cream of tartar, it is a powerful remedy in dropsy, and useful in acute inflammatory disorders of the brain, and other important organs. It is improper in diseases of the lungs. The dose of jalap is from twenty to forty grains. With calomel a common dose is ten grains of calomel, and twenty of jalap—with cream of tartar, fifteen or twenty grains of jalap, and two drachms of cream of tartar. Powders of this size may be repeated once in three or four hours, till they operate.

#### KINO.

There are several varieties of this medicine, which are obtained from various countries. It is uncertain whether it is all derived from the same variety of tree or not. It is nevertheless a medicine of properties sufficiently uniform, and as a remedy decidedly valuable. It is a gum resin, of a reddish brown color, easily reduced to powder, and kept for a length of time without injury.



*Medical properties and uses.* Kino is a powerful astringent, and beneficial for the suppression of excessive discharges. It is a valuable remedy in chronic diarrhoea, and may be used for the suppression of hemorrhage. It may be applied externally or taken internally. The dose is from ten to thirty grains, or it may be given in tincture, in doses of from thirty to sixty drops.

#### LAPIS CALAMINARIS.

This is the common name of the impure carbonate of zinc, an article which I have found very useful as an external application. It should be in an impalpable powder of a pale pink or reddish color. It is almost inert in its properties, but to raw surfaces and on ulcers which are inclined to form proud flesh, it is an excellent application. It is most conveniently applied, by sifting it through gauze or thin muslin. It gives no pain, and may be used with great freedom.

#### LIME.

Lime is an abundant product of nature, but never found pure. For medical purposes it is only necessary to burn, or heat to redness, the rocks containing it, and afterwards to throw on them a sufficient quantity of water to slake them. By this means, they will be reduced to a fine greyish white powder. This is quick lime, a substance having great resemblance to the alkalis, and in medicine to be used in the same manner.

*Medical properties and uses.* Lime is a powerful antacid, and is in some degree styptic in its qualities. It dissolves in about seven hundred times its weight of cold water, and in this state is given in doses of a table spoonful, or more, to correct the acid, which is sometimes in excess in the stomach. It is often combined with milk, and this forms a valuable remedy in dyspepsia and other disorders attended with feeble digestive powers. As an external application, it is sometimes used in ill conditioned ulcers, and combined with corrosive sublimate it forms the black wash of the shops, which is still a favorite application for the same purpose. Lime water is formed by putting three or four ounces of quick lime in a gallon of water. The water is to be poured off for use, but the lime still left in the bottom. Its rapid combination with carbonic acid, renders it difficult to preserve, and it should be made anew from freshly burnt lime frequently.

In a solid form, lime is used in combination with carbonic

acid. Several preparations of about the same qualities are in use. The prepared chalk is the best. This remedy is used for the same purposes with lime water. It may be eaten, or combined with mucilage, united with such other medicines as may be desired. From ten to twenty grains may be taken, and repeated as circumstances require.

#### LUNAR CAUSTIC.

This article is composed of a combination of silver with nitric acid, forming a nitrate of silver, and this should be its common name. In its pure state, it is a crystalized salt of a white color, but is commonly met with in cylindrical pieces which are easily broken, and if necessary, reduced to powder.

*Medical properties and uses.* Lunar caustic is a powerful typtic and escharotic, but in limited doses, it may be given safely, and with great advantage internally. It has been recommended by Doctor Boudin in low typhoid fever where there is good reason to believe the bowels were in a state of ulceration. I am told that it is now recommended in our colleges for the same purpose, and I have tried it in a few cases with satisfactory results. It is also recommended as a general tonic, and especially in epilepsy and other spasmodic diseases. The dose is from a quarter of a grain to two grains, repeated several times a day. This dose has been in some cases gradually increased to five or six grains. The medicine should always be given in pills. There are several objections to this remedy. In the first place, it is subject to be decomposed instantly by contact with table salt, which changes it to an inert substance. In forming it into pills, crumbs of bread containing salt should not be used. In the second place, it sometimes produces in persons, who continue its internal use for some time, a change in the color of the skin; changing it to a color almost black. This color is sometimes permanent, and at best slowly removed. As an external remedy, lunar caustic is decidedly one of the most important. It is advised to make solutions of it, only with distilled water; but I think common well or spring water is generally pure enough. The solution should be strong—from five to thirty grains in an ounce of water. A solution of five grains to the ounce, dropped into the eye, is active for a moment only, the tears furnishing salt enough to neutralise it at once. Thirty grains to the ounce, applied to a raw surface, is in a moment neutralised by the fluid it meets. Yet experience proves this mode

of applying the remedy to be very effective. In fungous ulcers, or raw surfaces which are without healthy granulations, the application of the solid caustic in the stick, is one of our best remedies. It should be put in a quill like a pencil and applied freely. It matters little how tender the surface is, the pain will be momentary. It is one of the few remedies, that rises in estimation, with experience in its use.

#### MAGNESIA.

This is an earth widely diffused in nature, but obtained for medical use only through the powers of chemistry. There are two preparations in common use, the carbonate and the calcined. They are in their places valuable remedies, and commend themselves by their total freedom from poisonous qualities.

*Medical properties and uses.* Magnesia is a decided corrective of acidity. The common kind, or carbonate, may be taken to relieve acidity of the stomach, in doses of from one to two drachms. It sometimes produces flatulence, when in combining with a stronger acid in the stomach, the carbonic acid gas is thrown off. But this is a slight inconvenience. The calcined magnesia is free from this inconvenience, and may be taken in doses somewhat less. In either form, the remedy is a mild laxative, and may be used with great safety. It may be taken in any convenient vehicle.

#### MERCURY.

Mercury is a metallic substance having the peculiar property of remaining fluid in the common temperature of the atmosphere. It resembles melted lead. In its crude state, it is inert, and may be swallowed in safety, to the extent of several ounces. Its combinations with other substances are numerous, and many of these are remedies of great importance. Few remedies have been so much used in the treatment of diseases as this; and it would be difficult to decide, whether the encomiums or the censures thrown on it, have the most force. I believe no experienced physician, ever denied its great powers as a medicine; but some attribute to it ultimate effects so pernicious, as in a great degree to cancel all its claims as a remedy. So strong is the prejudice which has arisen from these opinions, that I believe it is generally thought creditable to a physician, to say that he uses but a moderate quantity of

mercury in his practice. At the South I am not sure, but the practice of physicians has justified the prejudice, but nothing can take from mercury its pre-eminence as a medicine, till another and a better is discovered. The ills which sometimes arise from its use, have been greatly exaggerated, and the ravages of disease, improperly attributed to it in thousands of instances. It takes yet longer experience to assign to it, its proper place, but the idea of discarding it is wholly absurd.

*Medical properties and uses.* The preparations of mercury which have been used in medicine, are too numerous to mention. They are all intended to accomplish the same purpose—the introduction of the remedy into the system. I have not room to discuss the peculiar properties of these preparations, but will content myself with observing, that mercury enters into the system and circulates with the fluids of the body. In this state, it is a peculiar stimulant, producing a feverish excitement of the pulse, and an action on the absorbent and glandular system peculiar to itself. Its action on the liver and intestinal canal are decided. When continued for a few days, it excites and inflames the glands of the mouth and throat, producing considerable swelling and soreness, and a profuse discharge of saliva. These effects when well understood, give to the physician great power over many diseases, which are remediless without mercury. I think it necessary to mention particularly a few of its preparations.

Calomel, now known to the chemist as the mild chloride of mercury, is the most commonly used, and probably the best of all the preparations of this metal. It is a mild cathartic, producing a decided action on the liver and mucous surface of the bowels, causing discharges of bile and thick mucus, and above other cathartics free from producing watery discharges. Used in small doses, and repeated from day to day, it causes salivation with all the symptoms of a general mercurial excitement. The dose of calomel as a cathartic, is from ten to fifteen grains. Larger doses do not much increase the obvious action of the remedy. To produce salivation, three or four grains a day may be given, and if there is reason for wishing a speedy effect from it, larger doses with opium combined may be used.

*Blue pill.* This preparation is kept in mass by our druggists. It is the mildest of the preparations of mercury, and produces in a less degree all the effects of calomel. It sometimes remains on the bowels without acting as a cathartic, where very small doses of calomel operate actively. It is considered the



safest remedy for the weak and debilitated. The dose is about three times that of calomel.

*Corrosive sublimate.* The substance well known by this name is the "corrosive chloride of mercury" of the United States Dispensatory. It is to be regretted, that its chemical constituents and name, so much resemble those of calomel, while its medical properties are so widely different. Corrosive sublimate, *be it remembered*, is in large doses, a violent poison, while calomel is one of the mildest of remedies. Corrosive sublimate is never given as an emetic or cathartic, because it is too drastic and powerful to be safely used; but in minute doses, it is thought to be one of the best alterative remedies we possess. It is thought to be much less liable to produce salivation, than other preparations of mercury, while its effect, especially on eruptive disorders, is most decided. The dose of corrosive sublimate, is from the sixth to the third of a grain.

*Red precipitate.* This preparation of mercury is considered too harsh for internal use. As an external remedy, it is valuable in ulcers which are indolent and flabby in their appearance. It is applied by sprinkling it equally over the surface. It is readily taken into the system from raw surfaces to which it is applied, and I have known it to produce a salivation when applied in this way.

#### MURIATIC ACID.

This is one of the stronger acids, and if taken in large quantity, a corrosive poison. But it is not to be considered unfriendly in its nature, for it exists in the stomachs of the most healthy persons, and is thought to be essential in the digestion of food. It is of great importance in the arts, and as a remedy, entitled to some confidence.

*Medical properties and uses.* The effects of muriatic acid as a remedy, are less understood than its frequent use would seem to justify. It is a mild tonic, and thought to be cooling in fevers. In diseases of the skin resembling syphilis, it is an efficient remedy. I have found it the best remedy for the eruptions frequently found on the children of scorbutic or supposed syphilitic parents. The dose to a grown person, is from ten to twenty drops, diluted with water, and given two or three times a day. A drachm mixed with four ounces of water, forms a good gargle or external application for foul ulcers.

#### SALT-PETRE.

It was not easy to choose a name for this common salt. Ni-

trate of potassa, is in common language abbreviated to nitre, and this word *nitre* conveys to the minds of some, the idea of sweet spirit of nitre, and to others weak nitric acid. I have chosen salt-petre, which I believe will be always understood alike. Salt-petre is a salt compounded of potash and nitric acid, and is found native or manufactured by art. It is extensively used in the manufacture of gun powder, and is a valuable remedy.

*Medical properties and uses.* Salt-petre is a cooling sedative of great value in the treatment of fevers of a high grade. The dose is from five to fifteen grains, and may be repeated every hour or two. In combination with tartar emetic and calomel, it is a remedy of great activity. When continued in considerable doses, it promotes perspiration, increases the secretion of urine, and sometimes operates as a cathartic. In dropsies attended with local inflammation, it is a valuable addition to other diuretic medicines. In over doses, an ounce for example, taken by mistake for some other salt, it is a dangerous poison. I have twice witnessed this accident. It produced vomiting and purging, with bloody discharges, sunken pulse, profuse perspiration, and universal coldness of the surface of the body. Large draughts of warm tea, with occasional stimulants and anodynes were successful in relieving these cases. No antidote is known for this poison.

#### OPIUM.

Opium is the dried juice of the white poppy, and has been used as a medicine from the earliest ages. It is not only a valuable medicine ; but used to produce a pleasing excitement, by those who are well. In Persia, Turkey, and China, it is so extensively used, or rather abused, that the ills arising from it, are thought to equal those we see from the abuse of alcohol, in our own country. Still no one could wish the drug had not been discovered ; for without it, the physician had better abandon his calling. The labor and skill required in the production of opium are considerable. It is a great article of commerce, and although easily raised in any temperate climate, bears a high price. That which we use in the United States, is mostly obtained from Turkey or Egypt.

*Medical properties and uses.* Opium is a powerful stimulant and narcotic. These properties have been thought to reside in different portions of the drug, and it has been analysed with more labor and research, than any other article. The result

of these researches, leaves the matter yet unsettled. Every preparation of opium is a stimulant as well as a narcotic, and the difference between the effect of one and another, can scarcely be told from its consequences. For example, solid opium, laudanum, and morphine produce the same effect. It is true, we meet with persons ; who are affected differently by these different preparations ; but the difference on investigation, will commonly be found to be slight, and more frequently imaginary. The immediate effect of opium when taken, is to produce great exhilaration of mind, and a strong, but rather slow pulse. After a time, extremely various in different persons, and in the same person, under different circumstances, a mild and agreeable drowsiness comes on, and if the dose is sufficient, a deep sleep. The pulse still continues full, and the countenance flushed, and now a perspiration follows, which is also a symptom extremely variable. In this state, with more or less perspiration, the sleep continues for several hours, when the effect of the dose, if it has not been too large, is over. In some persons, headache, nausea, &c. follow ; but generally, little inconvenience is felt from it, and no permanent injury, unless it is too often repeated. It should have been mentioned, that a peculiar excitement of the skin is sometimes one of the effects of opium. This is evinced by a burning and itching of the face especially about the nose, and sometimes a general itching and slight eruption extending to all parts of the body. These are the common effects of a moderate dose of opium ; but there are many exceptions, growing out of peculiarities of constitution, and the particular state of the subject when the remedy is taken. Peculiarities of constitution seldom forbid the use of opium, although many persons think it always hinders their sleeping. Some it is true are longer under its exciting influence than others, but at last reap as great a reward ; but by far the greater number have taken it improperly, and thus formed erroneous opinions of their constitutions. I have met with but a single individual, who under no circumstances, dared to take opium. To her the drug is uniformly a violent emetic, producing great pain, and protracted vomiting. But the exceptions to the benefit of opium properly administered, are insignificant. The circumstances under which it is proper to give opium, are numerous and important.

1. In all diseases resulting in sudden or great prostration, such as fevers, cholera morbus, and other dangerous diseases, opium is a standard remedy.

2. Where there is intense pain from almost any cause, we have no remedy equal to this.

3. In diseases attended with morbid wakefulness, it is our best remedy.

4. Where intense pain is produced by spasm or violence to the nerves of tender organs, opium is our main reliance.

5. Were I to attempt to mention the agonising diseases, in which opium is our best remedy, I should far exceed my limits. I might instance tetanus, spasm, colic, cholera, gout, tenesmus, and gravel, and this is but a beginning.

6. And finally, when from our ignorance of the force of our remedies, or the strength of our patients, they are prostrated, and sinking under the violent action of medicine, opium, especially laudanum arrests its operation, and in many instances, saves our patients from death.

But there is some judgment necessary in using, even so great a remedy as opium. It is not a specific for any known disease. It cures many ; but it is by opposing to them, its known and obvious effects. It is a powerful stimulant, and therefore improper in inflammatory diseases. But even in these, it may be beneficially used after the powerful operation of medicine, or after bloodletting. I must not close without mentioning, that in a dose too large, opium is a fatal poison, too often sought by the desperate to destroy life ; but we have in another place, treated of its poisonous effects. The dose of opium is one grain, of morphine one third of a grain, and of laudanum twenty drops. These doses are small, and may be safely increased three or four fold, if the sudden exhaustion or violent pain demand it. Where the remedy is too often taken, it may be generally increased to an extent which would appear incredible.

#### POTASH.

Potash is a fixed alkali, derived principally from wood ashes, and too well known to need a description. It is always found in combination with other bodies ; the potash which is preferred for medical purposes, is still combined with carbonic acid. In a state of greater purity, it forms caustic potash. In medicine, it is useful in many of its combinations ; but it is our present purpose, to mention only two of its preparations.

*Medical properties and uses.* Caustic potash is an article of great activity and power. It is used as an external application to destroy fungous flesh, and even indurated substances,



such as corns or warts, are quickly destroyed by it. It requires skill and judgment in its application, and is objectionable on account of its tendency to spread beyond the part to which it is applied. The carbonate of potash, or salt of tartar, is still an active alkali, but safe and manageable as a remedy. Dissolved in water, it may be taken to neutralise the acidity of the stomach, which arises from indigestion. In smaller doses, long continued, it is a valuable remedy for red gravel, and combined with vinegar, it is a mild diuretic and febrifuge. Its diuretic properties are sometimes so great, that it becomes an important remedy in dropsy. In whooping cough, where the stomach is disordered, I have found it a valuable remedy. The dose of the carbonate of potash, is from ten to thirty grains. Where the potash which has been prepared for medical purposes cannot be obtained, there is no danger in using the coarse articles which are always at hand. Common potash or salæraus will answer. It is also perfectly safe to put two or three table spoonful of ashes into a gill of water, stir it briskly, and after it has settled, take a table spoonful or more. The potash which will be taken up by the water, will be sufficiently pure, but the strength will vary, and the dose must not be too large. The effects of potash as a poison, have been treated of under the head of poisons.

#### PINK ROOT.

This is the common name of a plant which is found native in our woods, and is a remedy of some importance. It is called the Maryland pink, but is much more abundant at the South and West, than in that State. The root is the part used as a medicine.

*Medical properties and uses.* I consider pink root by far the best remedy in use, for the destruction of worms. I allude to the round worm, which is almost exclusively entitled to our attention in this country. It may be given in substance or infusion. The dose of the powdered root is for a child four years old, from ten to twenty grains. It is more commonly given in infusion. Pour half a pint of boiling water on two drachms of pink root, and keep it hot by the fire for half an hour. A child four years old, may take half of this infusion at night, and if necessary, the balance the next morning. The second portion is not to be given, if the first operates as a cathartic, or especially if it produces stupor or intoxication. This effect on the brain, which sometimes follows the use of pink root, has never produced death, within my knowledge.

## QUINIA.

It may not be amiss to state, that this medicine is extracted from the Peruvian bark, and is thought to contain all its medical virtues. It is in my opinion so far superior to the bark from which it is extracted, that there is no necessity for administering that remedy in any case. I shall therefore treat only of the quinia or rather of the sulphate of quinia, which is its most common preparation.

*Medical properties and uses.* Till the discovery of the Peruvian bark, the intermittent fever was pointed at as the disgrace of medicine. That remedy was uncertain in its effects, because the quinia, its sole medical constituent, was in some specimens abundant, and in others very scarce. The physician had no certain method of telling the good from the bad. The discovery of the method of separating the quinia, from the useless portion of the bark, was highly important, and has doubled the value of the remedy. The sulphate of quinia, is the remedy now universally used. Its most important power is exerted over intermittent fever, or chill and fever as it is commonly termed. Having treated of its use in this disease, I need not repeat it here. But the power of arresting a paroxysm of fever, is but a strong example of the general power of quinia, to cut short intermitting diseases. Sun pain, or daily paroxysm of the headache, is as readily arrested by it as a chill. This, and other like examples, of the power of quinia to arrest an expected paroxysm of disease, has warranted the attributive of antiperiodic, which has of late been given to it. The powers by which quinia produces its wonderful effects, have been so variously understood, that I feel bound to say, that I do not give it as a mere stimulant or tonic. I give it to arrest the paroxysms of disease, and if there are no paroxysms, I have very little use for quinia. I do not deny that in small doses, it may prove tonic in its effects, but it is not equal to many others. The dose of quinia is undecided. Some give it in doses of one, and others of ten grains. It will hardly prove fatal in any dose; but I think the safest plan is to use it in moderation. Ten grains divided into three or four doses, and given within five or six hours of its attack, will arrest a common chill and fever. This is a small quantity, and may be increased to twenty or even thirty grains, in high grades of fever. I think larger doses unnecessary and hurtful.

## SAGE.

This perennial plant grows spontaneously in the South of Europe. It is cultivated in our gardens, more as a condiment, than as a medicine. It is a mild and agreeable aromatic, but can hardly be ranked with medicines. A weak infusion of its leaves, now generally called *sage tea*, is a gentle sudorific, and may be given with great advantage in connexion with other and stronger remedies. It is often chosen by the sick as a substitute for tea.

## SQUILL.

The squill is a bulbous rooted plant of spontaneous growth in the South of Europe. It has long been established as a remedy of great value.

*Medical properties and uses.* "Squill is expectorant, diuretic, and in large doses, emetic and purgative." It is a dangerous medicine in over doses. It is a stimulating expectorant, and produces its effect by exciting the lungs; but it is not only useful in promoting expectoration, but also in suppressing the copious thin discharges which are sometimes attended by disorders of the lungs. It is a component part of Coxes' Hivesyrup, and very extensively used in croup, and other diseases of the lungs. It is very often used in cases too inflammatory for its proper or safe operation. It should be remembered, that squill is an acrid, heating remedy. As a diuretic, I think it a more valuable remedy. In combination with calomel, it is our best remedy for dropsy, and may be beneficially used in other diseases where the secretion of urine is deficient. The dose as a diuretic or expectorant, is from one to two grains, twice or three times a day. In larger doses, it is emetic and cathartic.

## SENNA.

Senna is the leaves of a plant which grows spontaneously in Egypt, India, and several other warm countries. There are several varieties, and they appear to be mixed together without much discrimination. It is an important remedy, and it is very desirable that its cultivation should be introduced in the Southern States.

*Medical properties and uses.* Senna is a prompt and safe cathartic, and a good deal used in acute and inflammatory diseases. It is considered a mild cathartic, and it seldom operates excessively, but it sometimes produces griping and nausea.

These effects are lessened by combining it with the neutral salts or with spices. It is generally best to give it in combination with other cathartics. With Epsom salts it is the surest cathartic I have ever used. The infusion is the most common form in which it is given. Pour a pint of boiling water on an ounce of senna to make an infusion. Of this infusion, from three to four ounces is a dose. I almost always use but half the quantity of senna, and add to the infusion one or two ounces of Epsom salts. From two to four ounces of this, will prove cathartic, and seldom produce pain or sickness during its operation.

#### SPIRIT OF TURPENTINE.

This is the common name of the oil of turpentine, which is known to every one, and therefore need not be described.

*Medical properties and uses.* When applied externally, the oil of turpentine acts powerfully on the skin, producing redness, and if long continued, inflammation. It is a convenient application, and beneficial in local disorders attended with pain without much inflammation. It may be rubbed on once a day, but should not be repeated many days in succession. As an internal remedy, it is valuable in cases of worms. It is frequently successfully used in destroying the tape worm, and I have often seen the round worm and small white worm brought away in great numbers by its use. It may be safely taken in much larger doses, than its sensible qualities would seem to admit of. A child of six years old may take a tea spoonful, on half a wine glass full of water with ease and safety. To grown persons, it is given in doses of from half an ounce to an ounce. These large doses are given for the expulsion of worms. They commonly operate as a cathartic, and sometimes produce strangury and bloody urine. In smaller doses, oil of turpentine is given in many diseases. It has been beneficial in low protracted fevers, where the intestines were thought to be ulcerated. In chronic rheumatism, it is a valuable remedy. When it is to be continued from day to day, the dose should not exceed thirty drops twice a day. If it produces irritation of the kidneys, it is to be suspended.

#### SUGAR OF LEAD.

The acetate of lead, or as it is called sugar of lead, is a white substance of a disagreeable sweetish, astringent taste. It is a combination of lead with vinegar, and so easily decom-



posed, that it is not very much relied on in medicine. It was long thought to be extremely poisonous, producing especially painter's colic when used even in small doses. This opinion seems now to be exploded, and the remedy is regarded as being perfectly safe, even in considerable doses. Other preparations of lead are more distrusted, so that at present, I give the advice to use no other preparation of lead as medicine.

*Medical properties and uses.* As an external application, sugar of lead is a mild astringent. It may be dissolved in water, to the extent of four or five grains to the ounce, and used as an injection, in gonorrhœa or gleet, or applied to inflamed surfaces externally. Water is frequently too impure to be used with advantage in making the solution. But where the water in which it is dissolved turns white, and the remedy for internal use, it is best to allow it time for precipitation, when it should be poured off transparent for use. Internally, this remedy is given as an astringent to suppress excessive discharges by the bowels. It is also given to arrest hemorrhage, especially from the uterus and the lungs. The dose is two or three grains hourly, till ten or twelve grains, if necessary, are given. It is given in combination with opium. For a long time sugar of lead was thought the greatest of remedies in these diseases. This opinion seems to be giving way, but the remedy is still used.

#### SULPHUR.

Sulphur is an abundant product of the earth, found in mines and also as a constituent principle of many vegetable and animal substances. It is an elementary substance, and useful as a medicine.

*Medical properties and uses.* Sulphur is a mild laxative, passing slowly through the bowels, and being to some extent, taken into the circulation, and passing off by the pores of the skin. It is often a valuable remedy in hemorrhoidal affections, and is used as an external application in diseases of the skin. For curing the itch, it is the most certain remedy we possess. It is also given in chronic rheumatism, and some disorders of the lungs.

*Sulphuric acid*, although derived from sulphur, is so changed in its properties, that it would not be suspected of being at all the same. This acid, diluted with seven or eight times its measure of water, composes the elixir of vitriol of the shops. It is improved by combining with it, the essential oils of ginger and cinnamon, which give it a strong aromatic flavor, and when

well prepared, should be preferred to the diluted acid, without these aromatics. These preparations do not differ so much in their medical properties, as to require much care in the choice between them. Elixir of vitriol is a mild and excellent tonic medicine, and may be given with great advantage in the low forms of chronic fever, and for the removal of debility from any cause. It is given for the removal of night sweats in consumption, and for many other diseases. The dose is from ten to thirty drops in water, two or three times a day. It is advised to protect the teeth from its action, by drawing it through a quill; but I think if it is quickly swallowed, the injury it can do the teeth, is very trivial.

#### TARTAR EMETIC.

As a medicine, antimony is scarcely less important than mercury; but I have room to mention only its most important preparation. Tartar emetic, or the tartrate of antimony and potash, is composed of antimony in combination with tartaric acid and potash. It is a powerful and valuable remedy, and should be well known before it is prescribed. It is a dangerous medicine if used in excess. In this country, it is so common for inexperienced persons, to have both calomel and tartar emetic in their possession, that I think it important to say a word as to their discrimination. Both are sold in the form of white powder, and both have a heavy metallic weight; but calomel taken between the fingers, is exceedingly fine and smooth, adhering to whatever it touches: tartar emetic on the contrary, is a rough powder, falling from the fingers readily, and leaving scarcely any impression. A test so simple, should not be neglected.

*Medical properties and uses.* In full doses, tartrate of antimony is a powerful emetic, producing frequent and thorough discharges from the stomach, with great force and straining. It reduces the pulse, causes a profuse perspiration, and finally operates as a cathartic. In smaller doses, it produces nausea without vomiting, and at the same time reduces the force and fullness of the pulse, and increases almost every secretion. Such a remedy might be expected to have a great influence in diseases. We accordingly prescribe tartar emetic in the highest grade of inflammatory fevers, especially, pneumonia and pleurisy. In croup, it is also our best remedy. It were endless to particularise the cases in which it is a valuable remedy. The dose of tartar emetic is two grains every half hour till it

operates. To produce nausea, it is given in much smaller doses, a quarter of a grain or less. To some persons, the action of tartar emetic is too strong to be hazarded, and in some instances, the remedy operates as a powerful emetic and cathartic, and prostrates the patient in a short time. Laudanum is the great remedy in these cases. When applied to the skin, it produces a powerful and often valuable operation.

#### UVA URSI.

Uva ursi is a low evergreen shrub of cold climates, whose leaves have long maintained their place amongst the standard remedies of the profession.

*Medical properties and uses.* Uva ursi is astringent and tonic, having in its effects a particular operation on the urinary organs. It is given in diseases of the kidneys, and is thought to give tone and strength to the kidneys, and to remove a tendency to the formation of gravel. In certain disorders of the bladder and in leucorrhœa, it has been thought to operate beneficially. The dose of the powdered leaves of the uva ursi, is from half a drachm to a drachm; but the most convenient method of giving it, is to make a decoction from it by boiling an ounce of the leaves in a quart of water for a quarter of an hour. A wine glass full of this may be taken twice a day.

#### MIXTURES, PILLS, OINTMENTS, &c.

Most of the remedies I have recommended, will be supplied by druggists in forms ready for use, and all of them can be readily prepared at any physician's or apothecary's shop in the country. But to persons residing in remote situations, it may be inconvenient to procure the necessary assistance in making these preparations, and I have thought it best to give particular directions for a few of the most important.

#### ANTIMONIAL MIXTURE.

Take of saltpetre, two drachms; tartar emetic, two grains; water, half a pint; mix in a vial or tumbler.

This is a powerful emetic and sedative remedy, and highly useful in inflammatory diseases. It may be given in larger doses, at short intervals as an emetic, and in smaller doses, at longer intervals to produce a milder operation. A table spoonful every twenty minutes, will prove a prompt emetic to most persons. Two tea spoonsful every hour will produce nausea, and may be continued as long as necessary. If on giving this

mixture, it is found too active, lessen the quantity; if too weak, increase it; for persons differ very much in the quantity of this remedy they can use under different circumstances. So powerful is this remedy in controlling the pulse, and reducing inflammation, that with its efficient use, pleurisy, croup, and inflammations of all the important organs, except the bowels, may be successfully treated by it, without the use of the lancet. A table spoonful of the mixture, contains one-eighth grain of tartar emetic, and in giving the remedy, the quantity of this article is to be constantly kept in mind.

ANTIMONIAL POWDERS, OR POWDERS OF TARTAR  
EMETIC AND NITRE.

Take of saltpetre, two drachms; tartar emetic, two grains; rub them together in a mortar till fully incorporated, and divide the whole into twelve powders. Each powder will contain ten grains of nitre, and one-sixth of a grain of tartar emetic.

One of these powders given in water every half hour, will operate as an emetic. They may be given at longer intervals to produce nausea, and reduce the pulse in inflammatory fevers. They are composed of the same medicines directed above in the antimonial mixture. In dangerous cases where it is important to know exactly what remedies are used, the powder is to be preferred, as the dose given is more exactly known.

ANTIMONIAL POWDERS, WITH CALOMEL.

Take of calomel, twenty grains; tartar emetic, two grains; saltpetre, two drachms; rub together, till fully incorporated, and divide into twelve powders.

One of these powders may be given in syrup or honey hourly, or once in two or three hours according to circumstances. In bilious fever, where the pulse is full and strong, and the stomach not disordered, I have found this a powerful remedy. In diseases of the lungs, I have also used it, with the greatest success.

It is to be borne in mind, that the antimonial powders, with or without calomel, and the antimonial mixture, are remedies of great activity. They may be altered in their composition by lessening or increasing the calomel or tartar emetic to suit particular cases. If for instance, on trying them, they prove too active, lessen the dose; if a cathartic effect is particularly desired, increase the calomel; if the lungs are affected, in-



crease the tartar emetic, if the stomach will bear it ; and above all, give these remedies with watchfulness and care, and do not press them after they operate as a cathartic ; but if they are too active, arrest them with laudanum.

#### POWDERS OF IPECACUANHA AND NITRE.

Take of saltpetre, two drachms ; ipecac, thirty grains ; rub together, and divide into twelve powders.

One of these powders may be given in water hourly, or once in two or three hours according to circumstances.

These powders are mild when compared with the antimonial powders above described. They are however a valuable cooling sedative, and to be used, where the case is milder or the patient too debilitated to bear a stronger remedy. In cases of pleurisy or of fever which linger for many days, it becomes necessary to discontinue tartar emetic. Many persons are constitutionally unable to bear its harsh operation, and young children are often unable to take it safely. In all such cases the powder of ipecac and nitre is a valuable remedy.

#### POWDER OF JALAP AND CREAM OF TARTAR.

Take of jalap, two drachms ; cream of tartar, half an ounce ; mix well together, and divide into six powders.

One of these powders given in water every three hours, is an active cathartic. They may be given in dropsy, and in general when a cathartic, to discharge copious fluid matters is required.

#### POWDERS OF RHUBARB AND MAGNESIA.

Take of rhubarb, two drachms ; calcined magnesia, one drachm ; rub well together, and divide into six powders.

One of these powders in water may be given every three hours, as a mild cathartic ; it is particularly beneficial in cases of diarrhoea, and during the process of teething in children.

#### CALOMEL AND JALAP.

Take of calomel, ten grains ; jalap, thirty grains ; mix together, and give in syrup or honey.

This is a brisk and powerful cathartic, and has been given very extensively in the treatment of bilious fever at the South. The calomel is often given separately several hours before the jalap ; by which means the cathartic properties of both remedies act at the same time, and with more power. If the patient is

known to be very easily affected with mercury, it is best to combine the calomel and jalap together, by which means the calomel will be sooner passed off.

#### PILLS OF CALOMEL AND GAMBOGE.

Take of calomel, thirty grains ; powdered gamboge, eight grains ; gum Arabic or crumb of bread, sufficient to make the whole into eight pills.

Two of these pills every three hours, are a powerful cathartic, well adapted to the treatment of the highest grades of inflammatory fevers except such as affect the lungs and intestinal canal. In inflammation of the womb, they are the best remedy I have ever used.

#### STRONG CATHARTIC PILLS OF ALOES AND GAMBOGE.

Take of aloes one drachm, gamboge one drachm and a half, moisten with soap and water, rub well together, and divide into thirty-two pills. Two or three of these pills will operate as a powerful cathartic. They are a well established remedy.

#### MILDER PILLS OF ALOES AND GAMBOGE.

Take of aloes one drachm, gamboge ten grains, moisten with soap and water, and divide into sixteen pills. The pills may be made weaker by dividing the same mass into 24 pills. These pills were, I believe, first made by Doctor Murray, formerly of Augusta, Ga. I found them in the hands of my preceptor, Doctor Bird. They are the best gentle laxative for torpid bowels.

#### PILLS OF ALOES, RHUBARB AND IPECAC.

Take of aloes, rhubarb, and ipecac, each thirty grains, moisten with water, mix and divide into thirty-two pills. A gentle laxative pill, to be taken one by one at intervals of six hours or more, till the desired effect is produced.

#### PILLS OF IPECAC AND RHUBARB.

Take of ipecac and rhubarb, each thirty grains, moisten with water, mix and divide into 24 pills. A mild laxative and to be taken as the last mentioned pill.

#### PILLS OF ALOES AND EXTRACT OF GENTIAN.

Take of extract of gentian half a drachm, aloes one drachm, mix and make into 24 pills, with ginger or other dry powder.

These are a very safe laxative in dyspeptic cases. From one to three are a dose.

#### COOK'S PILLS.

Take of calomel 30 grains, rhubarb 30 grains, aloes 30 grains, moisten with water, mix and make into 32 pills. The calomel is the leading article in these pills. They are a safe cathartic, and may be given, three or four at a dose.

#### PILLS OF CALOMEL AND SQUILL.

Take of calomel 20 grains, squill 60 grains, moisten with water, mix and divide into 32 pills. A powerful remedy in dropsy. Two or three a day may be given, till salivation takes place.

#### LAUDANUM.

Take of hard opium, one ounce and a half; proof spirit, cogniac brandy or rum, a pint; cut the opium into small pieces, put it into a quart bottle, and add the spirit. Let it be well corked, and frequently shaken for three weeks. It may then be strained through paper, or carefully poured off, leaving the sediment, and allowing none to go over which is muddy. This laudanum will be better than that commonly sold, and it will remain good for any length of time if kept close. It should be transparent if put in a vial, and never used if muddy, because its strength may be so much increased, as to make it dangerous. I strongly recommend that families keep no fluid preparation of opium but laudanum, and to make themselves well acquainted with the doses suited to every age. This course would hinder many fatal errors.

#### SIMPLE OINTMENT.

Take of yellow wax one pound, lard two pounds; melt them together, and stir occasionally till nearly cold. This ointment should be hard enough to spread on cloth without sinking into it. If it proves too hard, add more lard, and melt it again; if too soft, add wax in the same way. This ointment is the proper dressing for ulcers or raw surfaces. It is used in making other plasters and ointments. By softening it a little by heat, you may easily incorporate with it, red precipitate, powdered galls, iodine, lapis calaminaris, or other remedies, which it may be desirable to apply on plasters. As a general rule, it is best to apply red precipitate, and other powerful remedies to ulcers separately, and cover the whole with the simple ointment.

## DEFINITIONS.

---

### A.

- Abscess.* A collection of pus in a cavity.  
*Absorbents.* Medicines which neutralize acids in the stomach.  
*Acarus.* The itch insect.  
*Acetates.* Salts of vinegar with earthy or metallic bases.  
*Acetous acid.* Vinegar.  
*Acute disease.* A severe disease with rapid progress.  
*Adipose.* Fatty—relating to fat.  
*Albumen.* A constituent part of the blood; white of egg.  
*Alkalies.* Potash, soda, ammonia.  
*Aloes.* A bitter stimulating cathartic gum.  
*Alum.* A valuable astringent medicine in common use.  
*Amaurosis.* Blindness, palsy of the nerve of the eye.  
*Amenorrhœa.* Suppression of the menses.  
*Ammonia.* One of the alkalies, volatile alkali.  
*Anasarca.* General dropsy, dropsy of the cellular membrane.  
*Anchylosis.* An adhesion of the bones destroying motion in the joint.  
*Aneurism.* A tumour formed by the dilatation of an artery.  
*Angina Pectoris.* A painful disease of the heart.  
*Anodyne.* A medicine which relieves pain.  
*Anthrax.* A carbuncle, a gigantic boil.  
*Antimony.* A metallic substance, the base of tartar emetic.  
*Antiphlogistic.* Opposed to inflammation.  
*Anus.* The fundament, the lower opening of the bowels.  
*Aphthæ.* Vesicles in the mouth or intestines.  
*Apoplexy.* Loss of sensation from pressure on the brain.  
*Arsenic.* A poisonous metallic substance.  
*Arthritic.* Gouty, relating to gout.  
*Arteries.* Blood-vessels arising at the heart, and distributing blood to all parts of the body.  
*Asafetida.* A very fetid gum.  
*Ascarides.* Small white intestinal worms.  
*Ascites.* Dropsy of the abdomen.  
*Astringents.* Medicines which contract organs, suppress discharges, &c.  
*Arrow root.* A nutritive substance, a kind of starch.



*Aura epileptica.* A symptom of epilepsy, like vapor or air.

*Auscultation.* Investigating diseases by listening.

## B.

*Balsam copaiba.* A yellowish balsam.

*Belladonna.* Deadly nightshade.

*Bichloride of mercury.* Corrosive sublimate.

*Blue vitriol.* Blue stone, sulphate of copper.

*Bright's disease.* A dangerous disease of the kidneys.

*Bronchitis.* Inflammation of the lining membrane of the lungs.

*Bronchocele.* Enlargement of the thyroid gland.

*Buboes.* Inflammation of the glands of the groin or arm-pit.

## C.

*Cachexia.* A depraved habit, with great paleness.

*Capsule.* A box. Ligaments enclosing a joint, &c.

*Capsicum.* Red pepper.

*Cantharides.* Spanish flies.

*Catamenia.* The menses.

*Calculus.* Stony deposits, chiefly in the urinary organs.

*Cardialgia.* Heart-burn. Pain at the cardia.

*Cartilage.* A substance softer than bone, composing joints &c.

*Carbonate of soda.* An alkaline salt. A valuable antacid.

*Carbonate of ammonia.* A pungent alkaline salt.

*Catarrh.* A flow of fluid from the nostrils. *A bad cold.*

*Castor.* A medicine resembling musk.

*Catalepsy.* A fixed and unchangeable spasm. A rare disease.

*Cathartics.* Medicines which evacuate the bowels.

*Carbonate of Iron.* Carbonic acid united with iron.

*Carbuncle.* A large and inveterate boil.

*Caustics.* Bodies which disorganise animal substances.

*Catheter.* An instrument for drawing off the urine.

*Cæcum.* A portion of the intestines. The blind gut.

*Chloasma.* Yellow spots on the skin.

*Chronic disease.* A disease of long continuance.

*Chorea.* Saint Vitus' dance.

*Chyle.* The nutritive matter of food.

*Chyme.* Digested food, from which the chyle has not been separated.

*Colic.* Pain in the colon. Pain in the stomach and bowels.

*Comedone.* A small pimple on the face.

*Chloroform.* A volatile fluid which produces deep sleep to those who inhale it.

*Citric acid.* The acid of limes or lemons.

- Coma.* Deep sleep from disease, or from poisons.  
*Colon.* One of the large intestines.  
*Collapse.* Sudden prostration in disease.  
*Corrosive sublimate.* Bichloride of mercury.  
*Congestion.* Accumulation of blood in any part of the body.  
*Croton oil.* A drastic cathartic. Three drops is a dose.  
*Coryza.* Running at the nose. Excitement of the nostrils.  
*Confluent.* Eruptions which run together.  
*Creasote.* A caustic fluid, extracted from tar.  
*Colchicum.* Meadow saffron.  
*Cynanche.* Inflammation of the throat and air passages.  
*Cretinism.* A state of idiocy, thought to be hereditary.

## D.

- Diaphragm.* The great muscle of respiration, which divides the lungs from the abdomen.  
*Diabetes.* A disease causing the excessive discharge of urine.  
*Diabetes melletus.* Diabetes with sweet urine.  
*Demulcents.* Medicines capable of correcting acrid humors.  
*Decoction.* Preparing medicines by boiling.  
*Diathesis.* Peculiarity of constitution.  
*Diarrhœa.* Frequent liquid discharges from the bowels.  
*Diuretics.* Medicines promoting the flow of urine.  
*Diagnostic.* Symptoms characteristic of a disease.  
*Douche.* A column of water thrown on the body.  
*Dracunculus.* The Guinea worm.  
*Duodenum.* Twelve fingers breadth of the intestinal canal next to the stomach.  
*Drastic.* Active, violent.  
*Dyspepsia.* Indigestion.  
*Dyspnœa.* Difficulty of breathing. Short breath.

## E.

- Emmenagogues.* Medicines which promote the flow of menses.  
*Encysted.* Enclosed in a sac, or cyst.  
*Encephaloid.* Brain-like. A cancerous tumor.  
*Endemic.* A disease confined to a particular neighborhood.  
*Enuresis.* Incontinence of urine.  
*Elixer of vitriol.* Diluted sulphuric acid.  
*Epigastrium.* The superior region of the abdomen—pit of the stomach.  
*Epidemic.* A disease prevailing generally.  
*Epidermis.* The scarf skin—cuticle.  
*Epiglottis.* A cartilage closing the upper orifice of the windpipe.

- Epilepsy.* Violent convulsions, the falling sickness.  
*Epistaxis.* Bleeding at the nose.  
*Erysipelas.* Inflammation of the skin. St. Anthony's fire.  
*Ergot.* Spurred rye.  
*Escharotics.* Caustics, which destroy the living organization.  
*Exacerbation.* A paroxysm of disease.  
*Exfoliation.* The separation of dead portions of bone.  
*Extravasation.* The escape of fluids from their proper vessels.  
*Excision.* Cutting off.  
*Expectorant.* That which promotes discharges from the lungs.

## F.

- Fauces.* The pharynx, or throat.  
*Feces.* Dregs. Excrement.  
*Febrile.* Relating to fever.  
*Feculent.* Foul. Dreggy. Excrementitious.  
*Febrifuge.* A remedy to allay fever.  
*Flocculent.* Soft, velvety.  
*Flux.* A discharge of fluid. Dysentery.  
*Fowler's solution.* A preparation of arsenic.  
*Fungus.* An excrescence. A tumour in the flesh.  
*Furunculus.* A boil.

## G.

- Gadfly.* A fly that deposits its eggs in the backs of cattle.  
*Gall-duct.* A duct carrying bile from the liver to the intestines.  
*Gangrene.* Mortification.  
*Gamboge.* A gum resin. A drastic purgative.  
*Gastric.* Belonging or relating to the stomach.  
*Gastritis.* Inflammation of the stomach.  
*Gelatine.* Animal jelly.  
*Gentian.* A medicinal plant.  
*Gland.* Glands are soft roundish bodies, of great variety in the human system. Some of them, as the liver and kidneys separate fluids from the blood, others as the thyroid gland, are of unknown uses.  
*Globus-Hystericus.* Hysteric suffocation.  
*Goitre.* Bronchocele. A swelling on the throat.  
*Gonorrhœa.* A contagious venereal complaint.  
*Gout.* A disease of the joints, caused by intemperance.

## H.

- Hæmaturia.* Voiding bloody urine.  
*Hartshorn, spirit of.* Water of ammonia.

*Hectic fever.* A fever, with great prostration of strength.

*Hellebore.* A medicinal plant.

*Hemorrhoids.* Piles.

*Herpes.* A vesicular disease. An eruption.

*Hernia.* A rupture, or a tumour from a displaced viscus.

*Hydatids.* Watery tumours, supposed to be living beings.

*Hiera picra.* Powder of aloes and canella.

*Hydriodate of potash.* A combination of iodine and potash.

*Hydrophobia.* Fear of water. Canine madness.

*Hydragogues.* Medicines, causing watery discharges.

*Hypertrophy.* The excessive enlargement of an organ.

*Hyperæsthesis.* Excessive sensibility.

*Hypochondriasis.* A nervous disease with disordered intellect.

*Hypogastric.* Relating to the region of the stomach.

*Hysteria.* Hysterics.

## I.

*Icterus.* Jaundice.

*Ileus.* A species of colic. Strangulation of the intestine.

*Iliac.* Relating to, or connected with, the flanks.

*Ilium, Ileon.* The longest portion of the small intestine.

*Incubation.* Hatching. The time which elapses between exposure to the cause, and the appearance of a disease.

*Inflammatory.* Causing inflammation.

*Incubus.* Nightmare.

*Intermittent.* Having intermissions. Intermittent fever.

*Interstices.* Spaces or intervals between organs.

*Intestinal.* Belonging or relating to the intestines.

*Inspiration.* Breathing. Drawing in the breath.

*Ipecac, Ipecacuanha.* A mild emetic.

*Iodine.* A valuable medicine of a violet color.

*Iris.* A membrane surrounding the pupil of the eye.

## J.

*Jaundice.* A disease producing yellowness of the eyes.

*Jalap.* A purgative medicine.

## K.

*Kino.* An astringent gum.

## L.

*Lactation.* Giving milk.

*Lancinating.* A shooting or piercing pain.

*Lapis calaminaris.* Impure carbonate of zinc.

*Larynx.* The seat of the voice. The top of the trachea.

*Laxative.* Opening to the bowels. A mild purgative.



- Lenticular.* Having the shape of a lentil.  
*Ligature.* A cord or thread, used to suppress hemorrhage.  
*Ligament.* A strong membrane uniting bones.  
*Lithic acid.* Uric acid. Acid producing stone or gravel in the kidneys or bladder.  
*Leucophlegmatic.* A dropsical habit.  
*Lobelia.* *Lobelia inflata.* A narcotic emetic.  
*Lumbar.* Relating to the loins.  
*Lumbricus.* The round worm.  
*Lumbago.* Rheumatism affecting the loins.  
*Lunar caustic.* Nitrate of silver.  
*Lupus.* A wolf. A destroying ulcer of the face.  
*Luxation.* The displacement of a bone.  
*Lymphatic.* Relating to lymph.  
*Lymphatic vessels.* Very minute vessels transmitting a watery fluid into the blood.

## M.

- Marasmus.* Atrophy. Wasting of the flesh.  
*Malaria.* A cause of disease, emanating from the sick, or from decaying matter.  
*Menses.* The monthly evacuation of women. Flowers.  
*Metastasis.* A transfer of disease, from one organ to another.  
*Monomania.* Insanity on one subject. Melancholy.  
*Miasm.* Malaria.  
*Morphia.* An alkali obtained from opium. The active principle of opium.  
*Mercury.* A brilliant fluid metal, much used in medicine.  
*Mucus.* Animal mucilage.  
*Mumps.* A contagious inflammation of the parotid glands.  
*Muriatic acid.* Acid of sea salt. Hydrochloric acid.  
*Musca volitantes.* Spots like flies floating in the air, seen by those who are going blind.  
*Musk.* A valuable remedy obtained from the musk animal.  
*Muriated tincture of iron.* A chemical compound of iron, muriatic acid, and alcohol.  
*Myrrh.* A stimulating gum.

## N.

- Nausca.* Sickness, near to vomiting.  
*Nephritis.* Inflammation of the kidney.  
*Nettlerash.* Mad itch. Urticaria.  
*Nitre.* Salt-petre. Nitrate of potash.  
*Neutralize.* To render a medicine inert.

- Nervous.* Belonging, or relating to the nerves.  
*Nitric acid.* Nitrogen and oxygen. A powerful acid.  
*Nomenclature.* Terms peculiar to an art or science.  
*Neutral salts.* Salts composed of two or more substances, but possessing the character of neither.  
*Nitrate of silver.* Lunar caustic.  
*Nosology.* The art of classifying diseases.  
*Nut gall.* An excrescence of the oak. *Galls.*  
*Nux vomica.* The seeds of a tree of India. A poisonous drug.

## O.

- Oesophagus.* Passage from the throat to the stomach.  
*Oedematous.* Dropsical. Anasarcaous.  
*Oak galls.* Nut galls. *Galls.*  
*Oil of amber.* A bituminous oil.  
*Opium.* A valuable medicine obtained from the white poppy.  
*Ovarian dropsy.* Dropsy of the ovaries.  
*Oxalic acid.* Acid of sorrel. A poisonous acid.

## P.

- Pancreas.* A glandular body, situated near the stomach.  
*Pancreatic.* Relating to the pancreas.  
*Parasites.* Plants or animals, living on other plants or animals. Intestinal worms are parasitic animals.  
*Papule.* A small inflamed tumor of the skin.  
*Paralysis.* Palsy. Loss of motion in a part.  
*Parturition.* Giving birth to. Delivery. Labour.  
*Parotid.* The largest salivary gland, situated below the ear.  
*Paroxysm.* The most violent period of a disease.  
*Pathology.* A treatise on the nature of diseases.  
*Pelvis.* The bony structure of the lower part of the body.  
*Perineum.* Between the genitals and the anus.  
*Pericardium.* A loose membrane enclosing the heart.  
*Peritonæum.* The membrane lining the abdomen.  
*Peritonitis.* Inflammation of the peritonæum.  
*Peristaltic.* Vermicular. Worm like.  
*Pellicle.* A thin skin. A floating membrane.  
*Percussion.* The effect or sound of bodies striking together.  
*Pharynx.* The throat.  
*Petechiæ.* Spots resembling flea bites.  
*Phosphate.* A body containing phosphorus.  
*Phrenitis.* Inflammation of the brain.  
*Post-mortem.* After death.

- Potash.* A fixed alkali. The vegetable alkali.  
*Pneumonic.* Relating to the lungs. Diseases of the lungs.  
*Pneumonia.* Inflammation of the lungs.  
*Potassium.* A peculiar metal. Pure potash.  
*Plethora.* Over fullness.  
*Prognosis.* Foretelling the event of a disease.  
*Precipitate.* To throw down. Medicines obtained by being deposited or thrown down, to the bottom of a vessel.  
*Phthisic.* Asthma. Consumption.  
*Phthisis pulmonalis.* Consumption of the lungs.  
*Protean.* Assuming many appearances.  
*Prussic acid.* Hydrocyanic acid. A deadly poison.  
*Prurigo.* Intolerable itching. Itching diseases.  
*Ptyalism.* Salivation.  
*Purpura.* Purples. A disease.  
*Pustules.* Small tumours containing pus.  
*Pyrosis.* Waterbrash. A disease of the stomach.

## Q.

- Quotidian.* A fever with a daily paroxysm.  
*Quartan.* A fever which returns on the fourth day.  
*Quinia.* An alkaline substance obtained from Peruvian bark.

## R.

- Rectum.* One of the intestines. The straight gut.  
*Remittent.* A fever having remissions.  
*Retina.* The organ of vision. The expanded nerve of the eye.  
*Rhubarb.* A cathartic medicine.  
*Rheumatism.* A painful disease of the joints.

## S.

- Sacrum.* The lowest portion of the spine.  
*Sanguiferous.* Relating to the blood.  
*Salivary glands.* Glands near the mouth, producing saliva.  
*Salivation.* A profuse flow of saliva.  
*Salaeratus.* Impure carbonate of potash.  
*Sanious.* Thin, serous, watery, bloody.  
*Sciballa.* Feculent matter in the shape of balls.  
*Scirrhus.* Hardened flesh. Cancer.  
*Seton.* An issue made by a skein of thread passed through the skin.  
*Scorbutus.* Scurvy.  
*Scrotum.* The skin which covers the testicles.

- Scrofula.* A disease of the glands, skin, or lungs. King's evil.  
*Sebaceous glands.* Glands of the skin, secreting a fatty substance.  
*Serous.* Producing serum. Relating to serum.  
*Serum.* The watery portion of the blood.  
*Sinapism.* A cataplasm of mustard.  
*Sloughing.* Dead flesh falling out of a foul sore.  
*Spigelia marylandica.* Pink root.  
*Sedative.* Medicine which decreases action.  
*Sphincter.* Muscles which close natural openings.  
*Spiritus etheris nitrici.* Sweet spirit of nitre.  
*Spirits of mindererus.* Solution of acetate of ammonia.  
*Spirit of ammonia.* Aromatic spirit of ammonia.  
*Spleen.* A spongy body seated near the stomach. Its uses are unknown.  
*Somnambulism.* Sleep walking.  
*Squill.* A valuable medicine.  
*Soda.* A fixed alkali. The base of sea salt.  
*Stertorous.* Deep snoring.  
*Stramonium.* Jameston weed. Thorn apple.  
*Strabismus.* Cross eyes.  
*Stethoscope.* An instrument for investigating diseases.  
*Sordes.* A foul discharge from ulcers.  
*Spasm.* Convulsions.  
*Sudamina.* A light eruption caused by excessive perspiration.  
*Sternum.* The breast bone.  
*Sudorifics.* Medicines producing sweat.  
*Styptic.* Astringent.  
*Strychnia.* The alkaline principle of nux vomica.  
*Sulphate of copper.* Blue stone.  
*Sulphate of zinc.* White vitriol.  
*Sulphate of quinia.* The salt of quinia.  
*Suppuration.* The forming of matter or pus.  
*Sulphuric ether.* Ether formed from sulphuric acid and alcohol.  
*Sulphate of iron.* Copperas.  
*Synochus.* Inflammatory. Inflammatory fever.  
*Synocha.* A fever somewhat inflammatory.  
*Sweet spirit of nitre.* Nitric ether.  
*Syphilis.* The venereal disease. The pox.  
*Syphilitic.* Relating to syphilis. Arising from syphilis.

## T.

- Tannin.* A substance in oak bark. An astringent principle.  
*Tapioca.* A nutritious substance from the cassava root.  
*Tartarized antimony.* Tartar emetic.



- Thyroid gland.* A gland on the neck. Its uses unknown.  
*Tenia.* The tape worm.  
*Teguments.* Integuments. The skin. A covering.  
*Tenesmus.* Painful, but vain efforts to pass feces.  
*Tea.* The tea plant or its infusion. An infusion.  
*Tetanus.* Locked-jaw.  
*Trachea.* The wind-pipe.  
*Tic douloureux.* Nervous pain of the face.  
*Tissues.* Parts composing the various organs of the body.  
*Tincture.* Medicines dissolved in spirit.  
*Trembles.* Milk sickness.  
*Trismus.* Locked-jaw. Tetanus.  
*Tonics.* Medicines which give strength.  
*Tertian.* A fever with paroxysms on the third day.  
*Trochar.* An instrument for tapping in dropsy.  
*Tubercle.* A tumour in an organ, or in the flesh.  
*Tumefaction.* Enlargement, swelling.  
*Typhoid.* Resembling typhus. Relating to typhus.  
*Typhus.* A fever with prostration. The same with typhoid.  
*Typhomania.* Delirium in typhus.

## U.

- Ulcer.* A running sore. A solution of continuity in the flesh or skin, not caused by a wound.  
*Ureter.* A tube for the transmission of urine from the kidney to the bladder.  
*Urethra.* The canal through which the urine is discharged.  
*Urticaria.* Nettlerash. Mad itch.

## V.

- Vagina.* A sheath. The passage to the womb, in females.  
*Vascular.* Relating to vessels. Filled with blood vessels.  
*Valerian.* A medicinal plant.  
*Varix.* A dilated vein.  
*Varicose veins.* Dilated, ulcerated, or bursted veins.  
*Vermiform.* Resembling a worm.  
*Variola.* The small-pox.  
*Varioloid.* Resembling small-pox.  
*Veneral.* Syphilis. Pox.  
*Verdigris.* Acetate of copper.  
*Ventricle.* A small cavity. A chamber of the heart, &c.  
*Vertigo.* Giddiness. A sensation, as if surrounding objects were in motion.

*Vesicle.* A bladder. A blister on the skin.

*Virus.* Poison. The matter transmitting disease.

*Visceral.* Relating to the viscera.

*Vomica.* A collection of pus in the lungs.

#### W.

*Water brash.* Vomiting a watery fluid.

#### Z.

*Zona ignea.* Herpes zoster. Shingles.

### WEIGHTS AND MEASURES.

The following are the weights and measures used by the apothecaries of the United States, and constantly referred to in this book.

#### WEIGHTS.

20 grains are one scruple ℥. equal to 20 grains.

3 scruples are one drachm ʒ. “ “ 60 grains.

8 drachms are one ounce ʒ. “ “ 480 grains.

The reader should be particular in understanding these weights and the marks on them. He should never forget the grains contained in a scruple, or a drachm.

#### MEASURES OF FLUIDS.

60 drops or minimus one drachm ʒ.

8 drachms are one ounce ʒ.

16 ounces one pound or pint.

8 pints one gallon.

These measures relate to water, but vary in their application to heavier or lighter fluids.

For common purposes.

A teacup full is four fluid ounces, or a gill.

A wineglass full is two fluid ounces.

A table spoonful is half an ounce.

A tea spoonful is a fluid drachm.

The tea cups and spoons now in use, are a little larger than the measures they are made to represent. The reader will take notice of this, and regulate his use of them accordingly.

## DOSES OF MEDICINES.

---

Every person who gives medicine, ought to have some knowledge of the quantity proper for a dose, and of the proportion of that dose which it will be proper to give to persons of various ages and temperaments. The doses recommended in this work are, when it is not otherwise expressed, intended for persons of mature age and good constitution. But there are many persons, who from excessive sensibility or other obscure causes, are unable to take safely a full dose of active medicine. To such persons, the dose should be accordingly lessened. Old persons also, as a general rule, require smaller doses than those of youth or middle age. As a general rule, the following table of Gaubius is referred to as good authority.

If the dose of a person of middle age is					1 or 1 drachm, 60 grs.
That of a person	14 to 20 years	will be	$\frac{2}{3}$ or 2 scruples	40 grs.	
"	" 7 to 14	"	" $\frac{1}{2}$ or $\frac{1}{2}$ drachm	30 grs.	
"	" 4 to 7	"	" $\frac{1}{3}$ or 1 scruple	20 grs.	
"	" 4	"	" $\frac{1}{4}$ or 1	" 15 grs.	
"	" 3	"	" 1-6 or 1	" 10 grs.	
"	" 2	"	" $\frac{1}{8}$ or 1	" 8 grs.	
"	" 1	"	" 1-12 or 1	" 5 grs.	

There are some medicines which have in their operation something peculiar, and admit of being given to children in larger doses than the above, in proportion to their ages. Castor oil and calomel are examples. But as the subject is particularly important to persons who are but little acquainted with medicine, I subjoin the principal articles advised by me as remedies with their proper doses for persons of different ages ; desiring it to be borne in mind, that the doses mentioned are considered moderate, and may be lessened or increased as the patient may appear to have less or more vigor than is common to others, and that females in general, require smaller doses than men.

A TABLE OF MEDICINES, WITH THEIR DOSES FOR PERSONS OF DIFFERENT AGES.

MEDICINES.	DOSES FOR A GROWN PERSON.	FOR A CHILD 7 YEARS OLD.	FOR A CHILD ONE YEAR OLD.	HOW TO BE USED.
Aloes . . . .	6 to 12 grains.	3 to 6 grains.	$\frac{1}{2}$ to 1 grain.	In pills or powders.
Alum . . . .	6 to 12 grains.	3 to 6 grains.	$\frac{1}{2}$ to 1 grain.	To be taken in water.
Ammonia, Aromatic, } Spirit of . . . }	12 to 24 drops.	6 to 12 drops.	1 to 2 drops.	{ This is a medicine of uncertain strength, and should be largely diluted with water.
Arsenical solution, } Fowler's solution }	6 to 12 drops.	3 to 6 drops.	1 drop.	To be given in water.
Asafoetida . . .	6 to 12 grains.	3 to 6 grains.	1 to 2 grains.	In pill, or any convenient way.
Balsam Copaiba . .	12 to 36 drops.	6 to 18 drops.	1 to 3 drops.	{ To be dropped on sugar, or taken in water.
Bicarbonate of Potash, } Carbonate of Potash }	12 to 24 grains.	6 to 12 grains.	1 to 2 grains.	To be given in water.
Blue Pill . . . .	1 to 10 grains.	1 to 5 grains.	1 to 2 grains.	{ 1 grain is a mild alterative, 10 grains a mild cathartic, is given in pills to suit the case.
Calcined Magnesia .	1 drachm.	30 grains.	5 grains.	To be given in water or milk.
Calomel . . . .	6 to 20 grains.	3 to 6 grains.	1 to 2 grains.	{ This remedy is to be given in pills or syrup. The dose may be smaller or larger.
Camphor . . . .	6 to 12 grains.	3 to 6 grains.	$\frac{1}{2}$ to 1 grain.	In pills, syrup, or milk.
Spirit of Camphor . .	12 to 24 drops.	6 to 12 drops.	1 to 2 drops.	To be given in water.
Castor Oil . . . .	$\frac{1}{2}$ to 1 ounce.	$\frac{1}{2}$ to $\frac{1}{2}$ an ounce.	1 drachm.	



Castor . . .	6 to 12 grains.	3 to 6 grains.	$\frac{1}{2}$ to 1 grain.	{ To be powdered, and taken in syrup or water.
Ergot, Powder of .	10 to 30 grains.	. . . . .	. . . . .	{ To be given in syrup.
Ether, Spts. of Nitric	1 to 2 drachms.	$\frac{1}{2}$ to 1 drachm.	10 drops.	{ This remedy is given in water, and may be safely taken in large doses.
Ether, Sulphuric . .	$\frac{1}{2}$ to 1 drachm.	. . . . .	. . . . .	{ To be given in water.
Galls in powder . .	6 to 12 grains.	3 to 12 grains.	1 grain.	{ To be given in water or syrup.
Gamboge, Gum . . .	3 to 8 grains.	. . . . .	. . . . .	{ To be given in pills or powder.
Gentian . . . . .	12 to 24 grains.	6 to 12 grains.	1 to 2 grains.	{ To be given in syrup.
Extract of Gentain .	2 to 6 grains.	1 to 5 grains.	1 grain.	{ May be made into pills, or mixed in syrup.
Laudanum . . . . .	30 drops.	15 drops.	2 drops.	{ These doses may be lessened or increased considerably, according to the case.
Nitrate of Potash, Salt- [petre	6 to 12 grains.	3 to 6 grains.	1 grain.	{ To be given in water.
Jalap, in powder . .	10 to 30 grains.	5 to 15 grains.	1 to 3 grains.	{ To be given in water or syrup.
Lime water . . . . .	1 ounce.	$\frac{1}{2}$ an ounce.	Tea-spoonful.	{ To be given in water or syrup.
Magnesia, Calcined	1 drachm.	30 grains.	5 grains.	{ To be given in water or milk.
Magnesia, Common .	2 drachms.	1 drachm.	$\frac{1}{2}$ drachm.	{ To be given in water, or eaten.
Oil of Turpentine . .	12 to 24 drops.	6 to 12 drops.	2 drops.	{ These doses may be repeated.
Opium . . . . .	1 grain.	$\frac{1}{2}$ grain.	1-12 of a grain.	{ May be given in pills or powder, and the doses lessened or increased.
Morphine, Acetate, } Muriate or sulphate }	1-6 to $\frac{1}{2}$ of a grain.	1-10 of a grain.	To be given in water.	{ To be given in water.

A TABLE OF MEDICINES, WITH THEIR DOSES FOR PERSONS OF DIFFERENT AGES.

MEDICINES.	DOSES FOR A GROWN PERSON.	FOR A CHILD 7 YEARS OLD.	FOR A CHILD ONE YEAR OLD.	HOW TO BE USED.
Pink root, in powder	12 to 24 grains.	5 to 12 grains.	3 grains.	To be given in syrup.
{ Pot Ash, Bicarbonate, or common . . .	12 to 24 grains.	6 to 12 grains.	1 to 6 grains.	To be given in water.
Squills, Powder of . .	6 to 12 grains.	3 to 6 grains.	$\frac{1}{2}$ grain.	To be given in syrup, or pills.
Squills, Syrup of . .	$\frac{1}{2}$ to 1 drachm.	10 to 15 drops.	5 drops.	To be given in water.
Tartar Emetic . . .	1 to 5 grains.	$\frac{1}{2}$ to 1 $\frac{1}{2}$ grains.	5 drops.	{ This active remedy is to be given in water, and not to young children, except in cases particularly pointed out.
Sweet Spirits of Nitre	1 to 2 drachms.	$\frac{1}{2}$ to 1 drachm.	10 drops.	To be given in water.
Spirits of Turpentine	12 to 24 drops.	6 to 12 drops.	2 drops.	See Oil of Turpentine.
Sugar of Lead . . .	1 to 3 grains.	1 $\frac{1}{2}$ grains.	$\frac{1}{2}$ grain.	To be given in water.
Senna, Infusion of . .	1 to 4 ounces.	1 ounce.	2 tea-spoonsful.	
Sulphur . . . . .	2 drachms.	1 drachm.	$\frac{1}{2}$ drachm.	To be given in syrup.
Tartar, Cream of . .	$\frac{1}{2}$ to 1 ounce.	2 drachms.	$\frac{1}{2}$ drachm.	To be given in water.
Tincture of Asafoetida	$\frac{1}{2}$ to 1 drachm.	20 to 30 drops.	5 drops.	To be given in water.
" Black hellebore	$\frac{1}{2}$ to 1 drachm.	. . . . .	. . . . .	To be given in water.
" Castor . . . . .	$\frac{1}{2}$ to 1 drachm.	. . . . .	. . . . .	To be given in water.
" Gentian . . . . .	1 drachm.	$\frac{1}{2}$ drachm.	10 drops.	To be given in water.
" Muriate of Iron	6 to 12 drops.	3 to 5 drops.	1 drop.	To be given in water.









NATIONAL LIBRARY OF MEDICINE



NLM 03277915 6